CCD-TR54/TR64/TR74/TR84/TR94/
TR440/TR440PK/TR490/TR490PK
RMT-713

SERVICE MANUAL

US Model
CCD-TR54/TR64/TR74/TR84/TR94
Canadian Model
CCD-TR54/TR64/TR74/TR94
E Model
CCD-TR440/TR440PK/TR490/TR490PK
Hong Kong Model
CCD-TR440/TR490
Tourist Model
CCD-TR440

Video8
Handycam

SteadyShot
Handycam Video8
24x
SONY

PHOTO : CCD-TR84

B MECHANISM

- CCD-TR440PK/CCD-TR490PK are models that carring bag are added in CCD-TR440/CCD-TR490.
- CCD-TR440PK/CCD-TR490PK are different from CCD-TR440/CCD-TR490 only in the accessory and packing materials.

For MECHANISM ADJUSTMENT, refer to the "8mm Video MECHANICAL ADJUSTMENT MANUAL VII" (9-973-801-11).

SPECIFICATIONS

Video Camera Recorder

System

Video recording system
Two rotary heads, Helical scanning, FM system

Audio recording system
Rotary heads, FM system

Video signal
NTSC color, EIA standards

Usable cassette
8 mm video format cassette (standard 8 mm)

Recording/Playback time
SP mode: 2 hours (P6-120)
LP mode: 4 hours (P6-120)

Fastforward/rewind time
Approx. 5 min. (P6-120)

Image device
CCD (Charge Coupled Device)

Color temperature
Auto

Recommended illumination
More than 100 lx

Input and Output connectors

Video output
Phono jack, 1 Vp-p, 75 Ω, unbalanced

RFU DC OUT
Special minijack, DC 5 V

LANC jack
Stereo-mini-mini-jack (ø 2.5 mm)

General

Power requirements
On battery mounting surface 6.0 V (battery pack), 7.5 V (AC power adaptor)

Operating temperature
32°F to 104°F (0°C to 40°C)

Storage temperature
–4°F to +140°F (–20°C to +60°C)

Dimensions
Approx. 4 3/8 x 4 1/8 x 8 inches (110 x 103 x 202 mm) (w/h/d)

AC power adaptor

Power requirements
110 – 240 V AC*, 50/60Hz

Power consumption
AC-V15: 18 W
AC-V16: 20 W
AC-V16A: 22 W

Output voltage
DC OUT in operation mode
AC-V15: 7.5 V, 1.6 A
AC-V16/V16A: 7.5 V, 1.8 A
Battery charge terminal
10 V, 1.1 A in charge mode

Application
Sony battery packs NP-33 (supplied), NP-60D, NP-C65, NP-66H, NP-68, NP-80/80D, NP-98/98D

Operating temperature
32°F to 104°F (0°C to 40°C)

Storage temperature
–4°F to +140°F (–20°C to +60°C)

Dimensions
Approx. 6 5/8 x 1 11/16 x 3 inches (166 x 43 x 75 mm) (w/h/d) including projecting parts and controls

Mass
AC-V15/V16: Approx. 15 oz (420 g)
AC-V16A: Approx. 16 oz (450 g)

* Canadian Standard Association (CSA) certifies 120 V AC only.

— Continued on next page —

8 VIDEO CAMERA RECORDER

SONY®

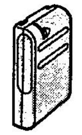
MICROFILM

Model	CCD-TR54	CCD-TR64	CCD-TR74	CCD-TR84	CCD-TR94	TR440/TR440PK	CCD-TR490/TR490PK
Viewfinder	Electronic viewfinder Black and white	Electronic viewfinder Color	Electronic solar viewfinder Color	Electronic viewfinder Black and white	Electronic solar viewfinder Color		
Lens	12×,Combined power zoom. lens,F1.8-2.7		12×(optical),24×(digital), Combined power zoom lens,F1.8-2.7			12×,Combined power zoom. lens,F1.8-2.7 lens,F1.8-2.7	12×(optical),48×(digital), Combined power zoom
Focal distance	7/32-2 5/8 inches (5.4-64.8mm) When converted to a 35mm still camera 1 9/16-18 1/2 inches (39-468mm)			7/32-2 5/8 inches (5.4-64.8mm) When converted to a 35mm still camera 1 7/8-22 1/4 inches (47-564mm)		7/32-2 5/8 inches (5.4-64.8mm) When converted to a 35mm still camera 1 9/16-18 1/2 inches (39-468mm)	
Minimum illumination	0.81× at F 1.8			3.01× at F 1.8		0.81× at F 1.8	
Illumination range	0.8 to 100,000 1×			3.0 to 100,000 1×		0.8 to 100,000 1×	
Audio output	Monaural,Phono jack,327mV, (at load impedance 47kΩ) impedance less than 2.2kΩ Monaural						Monaural,Phono jack,327mV, (at load impedance 47kΩ) impedance less than 2.2kΩ Stereo
Mic jack	Mini-jack,0.388mV,low impedance with 2.5 to 3V DC, output impedance 6.8kΩ (ø3.5mm)						Stereo mini-jack,0.388mV,low impedance with 2.5 to 3V DC, output impedance 6.8kΩ (ø3.5mm)
Average power consumption	3.6w		3.9w	4.0w	4.1w	3.6w	4.1w
Mass	Excluding the battery pack, lithium battery, cassette and shoulder strap Approx.1 1b 8 oz (690g) Including the battery pack NP-33,lithium battery CR2025,cassette P6-120 and shoulder strap Approx.2 1b (910g)		Excluding the battery pack, lithium battery, cassette and shoulder strap Approx.1 1b 8 oz (700g) Including the battery pack NP-33,lithium battery CR2025,cassette P6-120 and shoulder strap Approx.2 1b (920g)			Excluding the battery pack, lithium battery, cassette and shoulder strap Approx.1 1b 8 oz (690g) Including the battery pack NP-33,lithium battery CR2025,cassette P6-120 and shoulder strap Approx.2 1b (910g)	Excluding the battery pack, lithium battery, cassette and shoulder strap Approx.1 1b 8 oz (700g) Including the battery pack NP-33,lithium battery CR2025,cassette P6-120 and shoulder strap Approx.2 1b (920g)
Microphone	Electret condenser microphone Monaural type						Electret condenser microphone Stereo type

Checking Supplied Accessories

Check that the following accessories are supplied with your camcorder.

1



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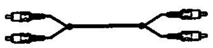

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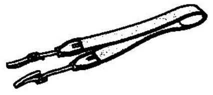

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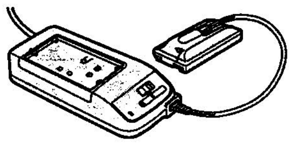

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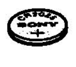

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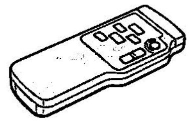

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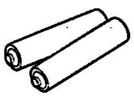

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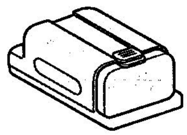

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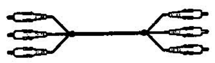
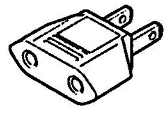


A/V connecting cable (2)

10



Adaptor conversion 2P

1 **NP-33 Battery Pack (1)**

2 **A/V connecting cable (1)** : Except TR490, TR490PK

3 **Shoulder strap (1)**

4 **AC-V15/V16/V16A AC power adaptor (1)**

5 **CR2025 Lithium Battery (1)**
Already installed in the camcorder.

6 **Wireless Remote Commander (1)**

7 **Size AA (R6) battery for Remote Commander (2)**

8 **Battery case (1)**

9 **A/V connecting cable (2)** : TR490, TR490PK Only

10 **Adaptor conversion 2P** : Hong Kong Model

- **Table for difference of functions**

Model	TR54	TR64	TR74	TR84	TR94	TR440	TR440PK	TR490	TR490PK
Destination	US/CND	US/CND	US/CND	US	US/CND	E/HK/JE	E	E/HK	E
Viewfinder	B/W	COLOR	SOLAR COLOR	B/W	SOLAR COLOR	SOLAR COLOR	SOLAR COLOR	SOLAR COLOR	SOLAR COLOR
Digital zoom	×	×	○ (24X)	○ (24X)	○ (24X)	×	×	○ (48X)	○ (48X)
Steady shot	×	×	×	○	○	×	×	×	×
Wide mode	×	×	×	×	×	×	×	○	○
Audio	MONO	MONO	MONO	MONO	MONO	MONO	MONO	STEREO	STEREO

abbreviation

CND	: Canadian model
HK	: Hong Kong model
JE	: Tourist model
B/W	: Black and white

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈSES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPÉMENTS PUBLIÉS PAR SONY.

SAFETY CHECK-OUT

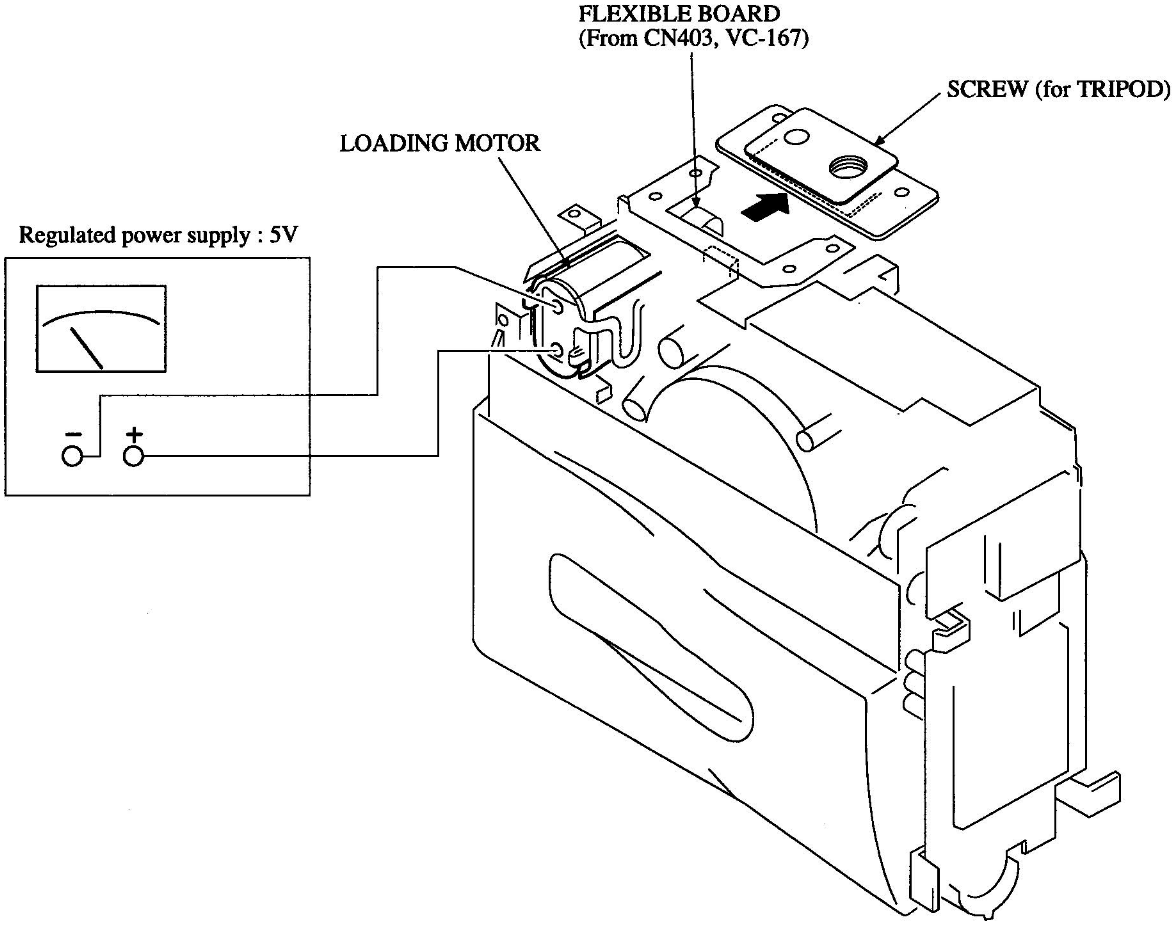
After correcting the original service problem, perform the following safety checks before releasing the set to the customer.

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, through functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replace-ment.
5. Check the B+ voltage to see it is at the values specified.
6. Flexible Circuit Board Repairing
   - Keep the temperature of the soldering iron around 270°C during repairing.
   - Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
   - Be careful not to apply force on the conductor when soldering or unsoldering.

CCD-TR54/TR64/TR74/TR84/TR94/ TR440/TR440PK/TR490/TR490PK

SERVICE NOTE

NOTE : To eject a cassette from the camcorder without turning on the main power, firstly remove the SCREW (for TRIPOD), then remove the FLEXIBLE BOARD as shown, and finally connect the regulated power supply ; +5V to the loading motor, this is to protect the main circuit from damage.


FLEXIBLE BOARD
(From CN403, VC-167)
SCREW (for TRIPOD)
LOADING MOTOR
Regulated power supply : 5V
–
+

Checking Your Model Number

The instructions in this manual are for five models listed below. Before you start reading and operating, check your model number by looking at the bottom of your camcorder. The CCD-TR54 is the model used for illustration purposes. Otherwise, the model name is indicated in the illustrations. Any differences in operation are clearly indicated in the text, for example, "For CCD-TR84 only".
As you read through this manual, buttons and settings on the camcorder are shown in capital letters.
e.g. Set the POWER switch to CAMERA.

Types of Differences

Model	Remote Commander	Viewfinder		Zoom			Steady Shot
		Black and white	Color	10x	12 x	12x ←→ 24x	
CCD-TR44		●		●			
CCD-TR54	●	●			●		
CCD-TR74	●		●			●	
CCD-TR84	●	●				●	●
CCD-TR94	●		●			●	●

Contents of the recording cannot be compensated if recording or playback is not made due to a malfunction of the camcorder, video tape, etc.

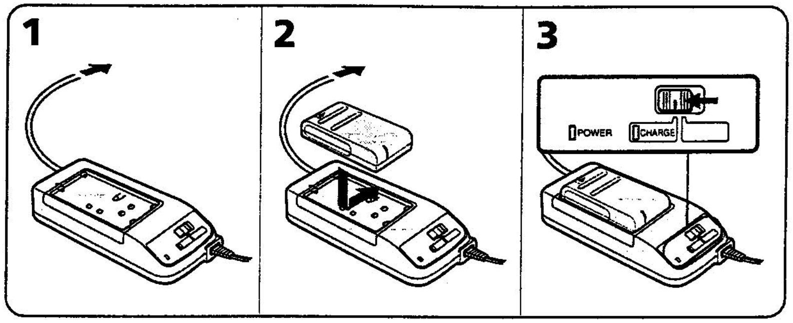
Getting Started

Charging and Installing the Battery Pack

Before using your camcorder, you first need to charge and install the battery pack. To charge the battery pack, use the supplied AC power adaptor.

Charging the Battery Pack

Charge the battery pack on a flat place without vibration.
(1) Connect the AC power adaptor to the wall outlet.
(2) Align the right side of the battery pack with the line on the AC power adaptor, then slide the battery pack in the direction of the arrow.
(3) Set the selector to CHARGE. The CHARGE lamp (orange) lights up. Charging begins.
When charging is completed, the CHARGE lamp goes out. Unplug the unit from the mains, and then remove the battery pack and install it on the camcorder.



Charging Time

Battery pack	NP-33 (supplied)	NP-98/98D	NP-80/80D	NP-68/66H	NP-C65	NP-60D
Charging time*	60	215	190	125	105	90

* Approximate minutes to charge an empty pack using the supplied AC power adaptor (Lower temperatures require a longer charging time.)

Charging and Installing the Battery Pack

Battery Life

CCD-TR44/TR54

Battery pack	NP-33 (supplied)	NP-98/98D	NP-80/80D	NP-68/66H	NP-C65	NP-60D
Typical recording time*	50	175	150	105	85	75
Continuous recording time**	90	305	265	180	155	135

CCD-TR74

Battery pack	NP-33 (supplied)	NP-98/98D	NP-80/80D	NP-68/66H	NP-C65	NP-60D
Typical recording time*	45	160	140	95	80	70
Continuous recording time**	85	280	245	170	145	125

CCD-TR84

Battery pack	NP-33 (supplied)	NP-98/98D	NP-80/80D	NP-68/66H	NP-C65	NP-60D
Typical recording time*	45	155	135	95	80	65
Continuous recording time**	80	275	240	165	145	120

CCD-TR94

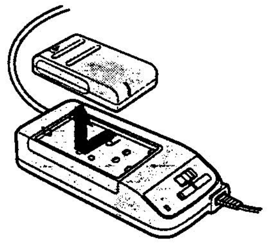
Battery pack	NP-33 (supplied)	NP-98/98D	NP-80/80D	NP-68/66H	NP-C65	NP-60D
Typical recording time*	45	155	130	90	75	65
Continuous recording time**	80	270	230	160	140	115

* Approximate minutes when recording while you repeat recording start/stop, zooming and turning the power on/off. The actual battery life may be shorter.

** Approximate continuous recording time indoors.

Removing the Battery Pack

Slide the battery pack in the direction of the arrow.



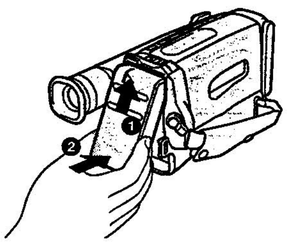
Notes on charging the battery pack

- The POWER lamp will remain lit for a while even if the battery pack is removed and the power cord is unplugged after charging the battery pack. This is normal.
- If the POWER lamp does not light, set the selector to VTR (DC OUT) and disconnect the power cord. After about one minute, reconnect the AC power cord and set the selector to CHARGE again.
- You cannot operate the camcorder using the AC power adaptor while charging the battery pack.

Charging and Installing the Battery Pack

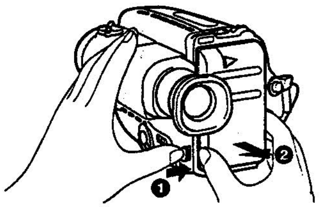
Installing the Battery Pack

(1) Insert the top of the battery pack into the top of the battery mounting surface.
(2) Push the battery pack so that it attaches firmly.



Removing the Battery Pack

Slide BATT, and then pull the lower part of the battery pack.

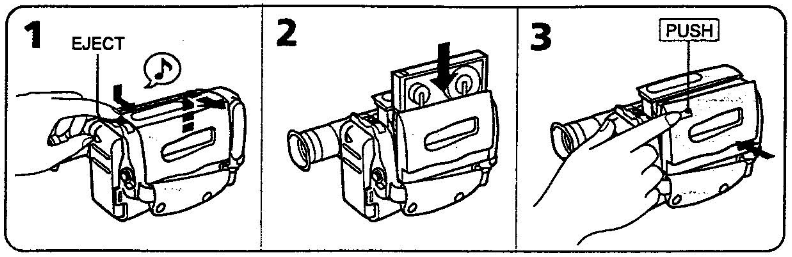


Inserting a Cassette

Make sure that a power source is installed.

(1) While pressing the small blue button, slide EJECT in the direction of the arrow. The cassette compartment automatically opens.
(2) Insert a cassette (not supplied) with the window facing out.
(3) Press the PUSH mark on the cassette compartment to close it. The cassette compartment automatically closes.

♪: You can hear the beep sound to confirm your operation.

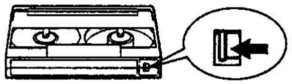


To Eject the Cassette

While pressing the small blue button, slide EJECT in the direction of the arrow.

To Prevent Accidental Erasure

Slide the tab on the cassette to expose the red mark.
If you insert the cassette with the red mark exposed and close the cassette compartment, the beeps sound for a while. If you try to record with the red mark exposed, the 📼 and ⏏ indicators flash in the viewfinder, and you cannot record on the tape. To re-record on this tape, slide the tab back out to cover the red mark.



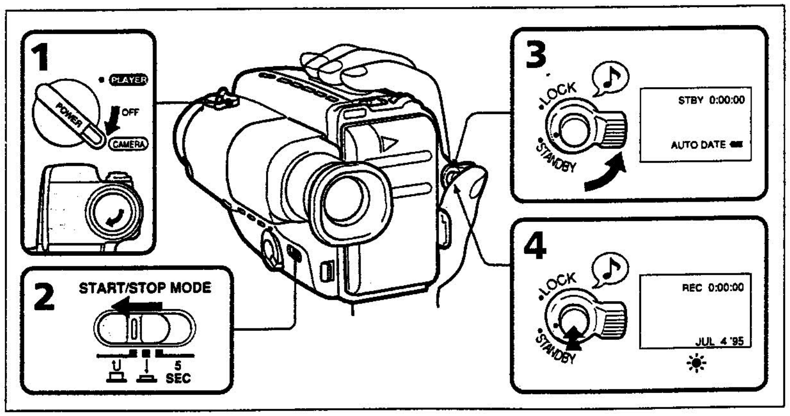
Camera Recording

Make sure that a power source and a cassette is inserted.
When you use the camcorder for the first time, power on it and reset the date and time to your time (p. 33) before you start recording. When you reset the date and time, the date is automatically recorded for 10 seconds after you start recording (AUTO DATE feature). This feature works only once a day.
Before you record one-time events, you may want to make a trial recording to make sure that you are using the camcorder correctly.

(1) While pressing the small green button on the POWER switch, turn it to CAMERA.
(2) Slide the START/STOP MODE switch to ⊥ .
(3) Turn STANDBY up. The "STBY" indicator appears in the viewfinder.
(4) Press START/STOP (red button). The camcorder starts recording and the "STBY" indicator changes to the "REC" indicator.

You can also select Recording mode, SP (standard play) mode or LP (long play) mode. Set REC MODE (p. 29) according to the length of your planned recording before you start.

♪: You can hear the beep sound to confirm your operation.

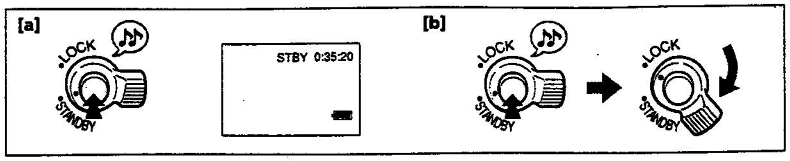


To Stop Recording Momentarily [a]

Press START/STOP again. The "REC" indicator in the viewfinder changes to the "STBY" indicator (**Standby mode**).

To Finish Recording [b]

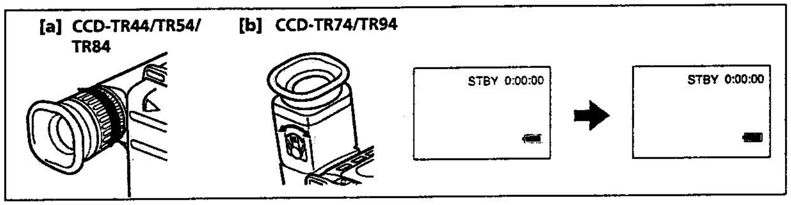
Press START/STOP. Turn STANDBY down, and set the POWER switch to OFF.
Then, eject the cassette (p. 11) and remove the battery (p. 10).



Note on Standby mode
If you leave the camcorder for 5 minutes or more with a cassette inserted in Standby mode, the camcorder goes off automatically. This prevents wearing down the battery and wearing out the tape. To resume Standby mode, turn STANDBY down once and turn it up again. To start recording, press START/STOP.

To Focus the Viewfinder Lens

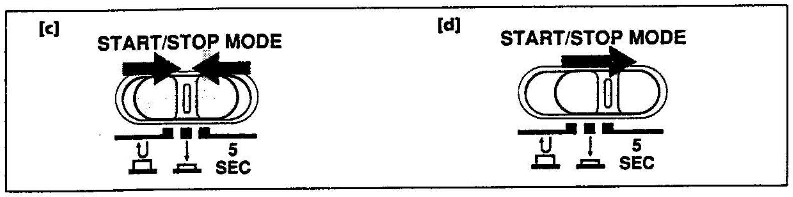
If the viewfinder is not in focus at all or when you use the camcorder after someone else has used it, focus the viewfinder lens. When using a monochrome viewfinder, turn the viewfinder lens adjustment ring so that the indicators in the viewfinder come into sharp focus **[a]**. When using a color viewfinder, move the viewfinder lens adjustment lever so that the indicators in the viewfinder come into sharp focus **[b]**.



Note on the indicators in the viewfinder
The indicators appear in CAMERA mode only. They do not appear in PLAYER mode.

Recording with the START/STOP button depressed
You can also make recording while pressing down the START/STOP button. To make the START/STOP button work this way, slide the START/STOP MODE switch to ⊥ . **[c]**

Shooting scenery in several short takes
You can automatically make recording for about 5 seconds with the 5 SEC (p. 26). To make the START/STOP button work this way, slide the START/STOP MODE switch to 5 SEC. **[d]**



Note on recording

When you record from the beginning of the tape, run the tape for about 15 seconds before actual recording. This prevents the camcorder from missing any start-up scenes when you play back the tape.

Notes on recording mode

- This camcorder records in the SP mode (approximately 19/32 inch (1.43 cm)/second) and in the LP mode (approximately 5/16 inch (0.72 cm)/second) (p. 29) and can play back in the SP mode and LP mode. The playback quality in the LP mode, however, will not be as good as that in the SP mode.
- When a cassette recorded on this camcorder in LP mode is played back on other types of 8 mm camcorders or VCRs, the playback quality may not be as good as that on this camcorder.

Notes on the tape counter

- The tape counter indicates the recording time. Use it as a guide. There will be a time lag of several seconds from the actual time. To set the counter to zero, press COUNTER RESET located below the viewfinder.
- If the tape is recorded in SP and LP modes mixed, the tape counter shows incorrect recording time. When you intend to edit the tape using the tape counter, record in same (SP or LP) mode.

Note on beep sound

As indicated with ♪ in the illustrations, a beep sounds when you turn the power on or when you start recording and two beeps sound when you stop recording, confirming the operation. Several beeps also sound as a warning of any unusual condition of the camcorder (p. 55). Note that the beep sound is not recorded on the tape. If you do not want to hear the beep sound, set BEEP to "OFF" (p. 29).

Note on the AUTO DATE feature

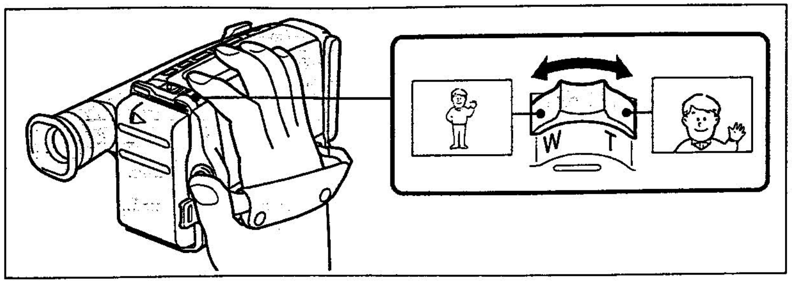
The clock is set to the East Coast Standard Time at the factory. You can reset the clock (p. 33).
The AUTO DATE feature works once a day. However, the date may automatically appear more than once a day when:
- you reset the date and time.
- you eject and insert the cassette again.
- you stop recording within 10 seconds.

When moving from indoors to outdoors (or vice versa)

Turn STANDBY up and point the camcorder at a white object for about 15 seconds so that the white balance is properly adjusted.

Using the Zoom Feature

Zooming is a recording technique that lets you change the size of the subject in the scene. For more professional-looking recordings, use the zoom sparingly.
T side: for telephoto (subject appears closer)
W side: for wide-angle (subject appears farther away)



Zooming Speed

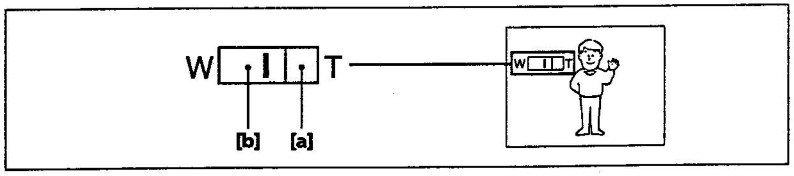
Turn the power zoom lever fully for a high-speed zoom. Turn it lightly for a relatively slow zoom.

When you shoot a subject using a telephoto zoom

If you cannot get a sharp focus while in extreme telephoto zoom, turn the power zoom lever towards the W side until the focus is sharp.
You can shoot a subject that is at least 2.6 feet (about 80 cm) away from the lens surface in the telephoto position, or 1/2 inch (about 1 cm) in the wide-angle position.

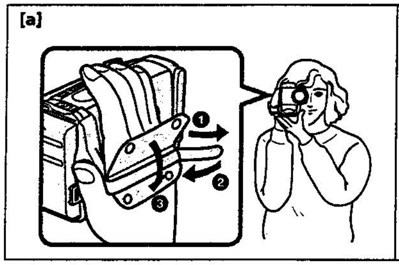
Notes on Digital Zoom (for CCD-TR74/TR84/TR94 only)

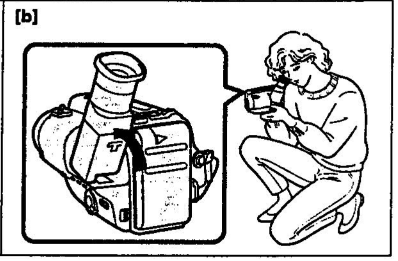
You can select 12 x or 24 x of zooming.
- More than 12 x zoom is performed digitally, and the picture quality deteriorates as you go toward the T side. If you do not want to use the digital zoom set the ZOOM function to x12 (p. 29).
- The vertical bar in the power zoom indicator separates the digital zooming zone (right side of the bar **[a]**) and the optical zooming zone (left side of the bar **[b]**). If you slide the ZOOM switch to x12, the right side of the bar **[a]** disappears.



Hints for Better Shooting

For hand-held shots, you'll get better results holding the camcorder according to the following suggestions:





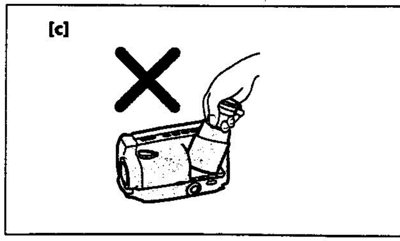
- Hold the camcorder firmly and secure it with the grip strap so that you can easily manipulate the controls with your thumb. **[a]**
- Place your right elbow against your side.
- Place your left hand under the camcorder to support it. Do not cover the microphone with your fingers.
- Place your eye firmly against the viewfinder eyecup.
- Use the viewfinder frame as a guide to determine the horizontal plane.
- You can also record in a low position to get an interesting recording angle. Turn the viewfinder up for recording from a low position. **[b]**

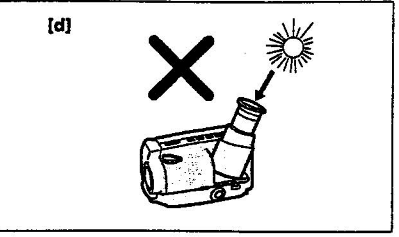
Place the camcorder on a flat surface or use a tripod

Try placing the camcorder on a table top or any other flat surface of suitable height. If you have a tripod for a still camera, you can also use it with the camcorder.
When attaching a non-Sony tripod, make sure the tripod screw is shorter than 9/32 inch (6.5 mm). Otherwise, the screw may damage the inner parts of the camcorder.

Cautions on the viewfinder

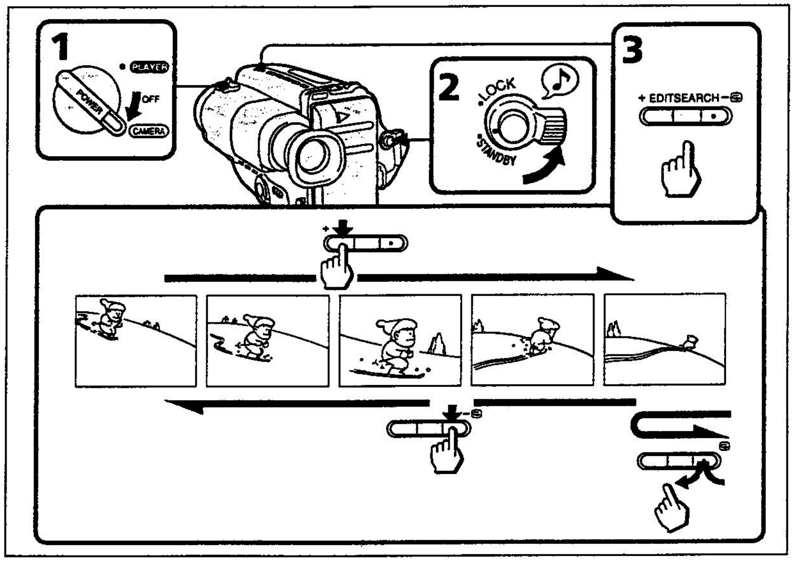
- Do not pick up the camcorder by the viewfinder. **[c]**
- Do not place the camcorder so as to point the viewfinder toward the sun. The inside of the viewfinder may be deformed. Be careful in placing the camcorder under sunlight or by the window. **[d]**





Checking the Recorded Picture

Using EDITSEARCH, you can review the last recorded scene or check the recorded picture in the viewfinder.
(1) While pressing the small green button on the POWER switch, turn it to CAMERA.
(2) Turn STANDBY up.
(3) Press EDITSEARCH. Press the – (⊖) side momentarily, the last few seconds of the recorded portion plays back **(Rec Review).**
Hold down the – side of EDITSEARCH until the camcorder goes back to the scene you want. The last recorded portion is played back. To go forward, hold down the + side **(Editsearch).**



To Begin Re-recording

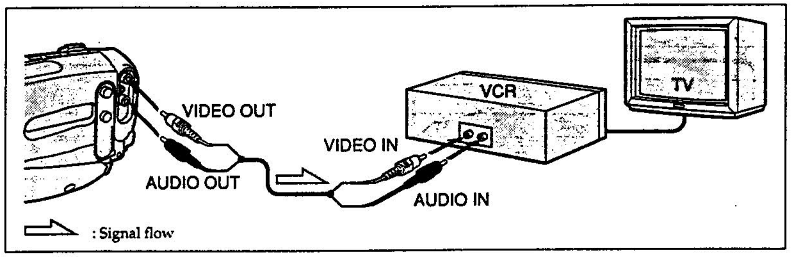
Press START/STOP. Re-recording begins from the point you released EDITSEARCH. Provided you do not eject the cassette, the transition between the last scene you recorded and the next scene you record will be smooth.

Connections for Playback

You can use this camcorder as a VCR by connecting it to your TV for playback. It is recommended to use the house current as the power source (p. 21).

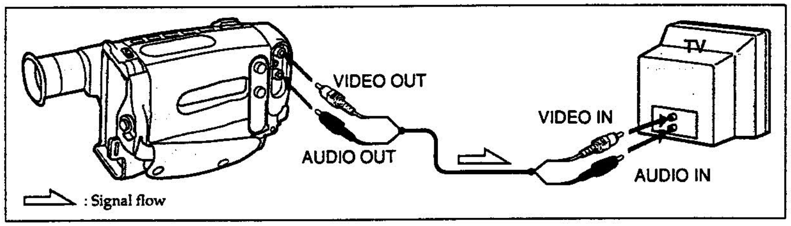
If a VCR is connected to a TV

Connect the camcorder to LINE IN on the VCR by using the supplied A/V connecting cable. Set the input selector on the VCR to LINE. Set the TV/VCR selector to VCR on the TV.


TV
VCR
VIDEO OUT
VIDEO IN
AUDIO OUT
AUDIO IN
: Signal flow

Connecting Directly to a TV

Connect the camcorder to your TV by using the the supplied A/V connecting cable. Set the TV/VCR selector to VCR on the TV.


TV
VIDEO OUT
VIDEO IN
AUDIO OUT
AUDIO IN
: Signal flow

To Connect a TV or a VCR without Video/Audio Input Jacks

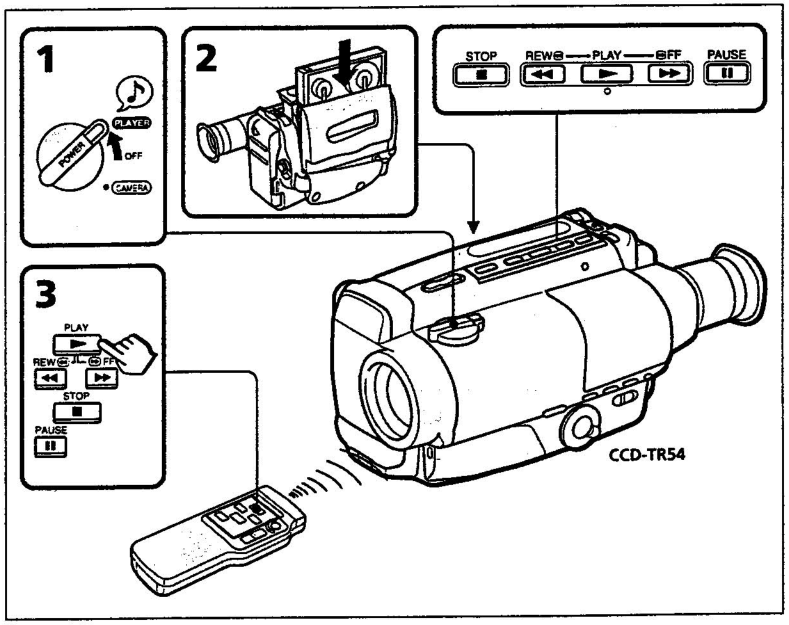
Use the RFU-95UC RFU adaptor (not supplied).

Playing Back a Tape

You can monitor the playback picture in the viewfinder. You can also monitor on the TV screen, after connecting the camcorder to the TV/VCR (p. 18).
You can control playback using the supplied Remote Commander* (For CCD-TR54/TR74/TR84/TR94 only, p. 51).
*** For CCD-TR44 users:**
The Remote Commanders are available on option.

(1) While pressing the small green button on the POWER switch, turn it to PLAYER.
(2) Insert the recorded tape with the window facing out.
(3) Press ►. Playback starts.

♪: You can hear the beep sound to confirm your operation.


1
PLAYER
OFF
CAMERA
POWER
2
STOP
REW
PLAY
FF
PAUSE
3
PLAY
REW
FF
STOP
PAUSE
CCD-TR54

To stop playback, press ■.
To rewind the tape, press ◄◄.
To fast-forward the tape, press ►►.

See the next page for further informations.

Playing Back a Tape

Various Playback Modes

To view a still picture (playback pause)
Press ❚❚ during playback. To resume playback, press ❚❚ or ▶.

To locate a scene (Picture Search)
Keep pressing ◀◀ or ▶▶ during playback. To resume normal playback, release the button.

To monitor the high-speed picture during fastforward or rewind (Skip Scan)
Keep pressing ◀◀ while rewinding or ▶▶ while advancing the tape. To resume normal playback, press ▶.

To view the picture in a sequence of stop-motion images
Press EDITSEARCH in playback pause mode. If you keep pressing EDITSEARCH, you can view the picture playback in the forward (+) or reverse (–) direction.

Notes on playback
- Streaks appear and the sound is muted in the various playback modes.
- When still picture mode lasts for 5 minutes or more, the camcorder automatically enters stop mode.

Advanced Operations

Using Alternative Power Sources

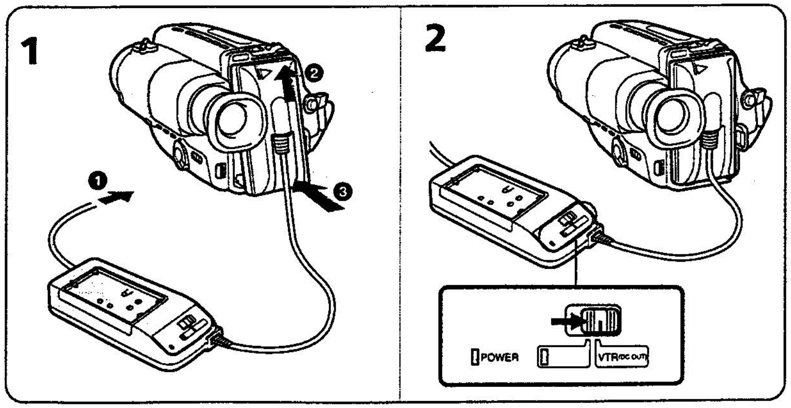
You can choose any of the following power sources for your camcorder: battery pack (P.7), the house current, alkaline battery, and 12/24 V car battery. Choose the appropriate power source depending on where you want to use your camcorder.

Place	Power source	Accessory to be used
Indoors	House current	Supplied AC power adaptor
Outdoor	Battery pack	Battery pack NP-33 (supplied), NP-98/98D, NP-80/80D, NP-68, NP-66H, NP-C65, NP-60D
	Size AA (LR 6) Alkaline battery	Battery case (supplied)
In the car	12 V or 24 V car battery	DC pack DCP-77

This mark indicates that this product is a genuine accessory for Sony video products. When purchasing Sony video products, Sony recommends that you purchase accessories with this "GENUINE VIDEO ACCESSORIES" mark.

Using the House Current

To use the supplied AC power adaptor:
(1) Connect the AC power cord to a wall outlet. Insert the top of the connecting plate of the AC power adaptor into the top of to the battery mounting surface. Push the connecting plate so that it attaches firmly.
(2) Set the selector to VTR (DC OUT).



Using Alternative Power Sources

WARNING

AC power cord must only be changed at qualified service shop.

PRECAUTIONS

The set is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the set itself has been turned off.

Notes on the POWER lamp

- The POWER lamp will remain lit for a while even if the unit is unplugged after use. This is normal.
- If the POWER lamp does not light, set the selector to VTR (DC OUT) and disconnect the AC power cord. After about one minute, try again.

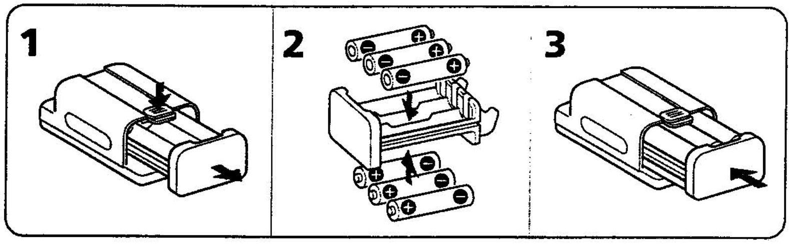
To remove the adaptor

The adaptor is removed in the same way as the battery pack (p. 10).

Using the Battery Case

Use the battery case (supplied) and six size AA (LR 6) alkaline batteries (not supplied).

(1) Remove the battery holder from the battery case.
(2) Insert six new alkaline batteries into the battery holder, following the marking on the holder to be sure the batteries are installed in the correct direction.
(3) Insert the battery holder with the alkaline batteries.
(4) Insert the battery case with the alkaline batteries to the battery mounting surface of the camcorder in the same way as the battery pack (p. 10).



Battery Life

Using alkaline batteries at 77 °F (25 °C)

Model	Typical recording time	Continuous recording time
CCD-TR44/TR54	70 min.	125 min.
CCD-TR74	60 min.	110 min.
CCD-TR84	55 min.	100 min.
CCD-TR94	55 min.	100 min.

Notes

- The above battery lives are estimates. The battery life may be shorter depending on the storage condition of the battery before being purchased and temperature.
- You may not use the battery case in cold environment.

To remove the battery case

The battery case is removed in the same way as the battery pack (p. 10).
When you replace the batteries, be sure to remove the battery case from the camcorder to prevent malfunction.

Using a Car Battery

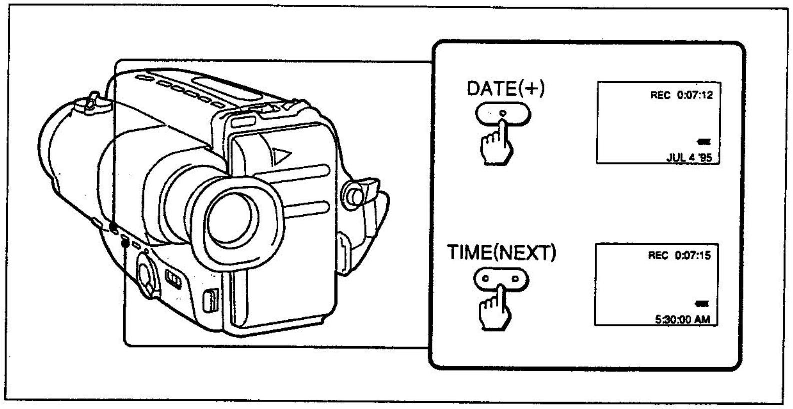
Use the DCP-77 DC pack (not supplied). Connect the cord of the DC pack to the cigarette lighter socket of a car (12 V or 24 V). Connect the DC pack to the battery mounting surface of the camcorder.

To remove the DC pack

The DC pack is removed in the same way as the battery pack (p. 10).

Recording with the Date or Time

Before you start recording, press DATE or TIME. You can record the date or time displayed in the viewfinder with the picture. You cannot record the date and time at the same time. Except for the date or time indicator, no indicator in the viewfinder is recorded.
The clock is set to the East Coast Standard Time at the factory.



To Stop Recording with the Date or Time

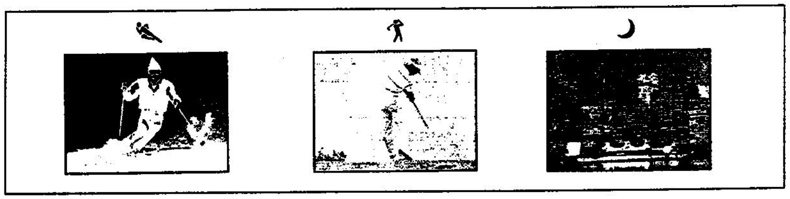
Press DATE or TIME again. Recording continues.

Using the PROGRAM AE Function

You can select from three PROGRAM AE (Auto Exposure) modes to suit your shooting situation. When you use PROGRAM AE, you can capture high-speed action or night views.

Selecting the Best Mode

Select the best mode by using the following examples.



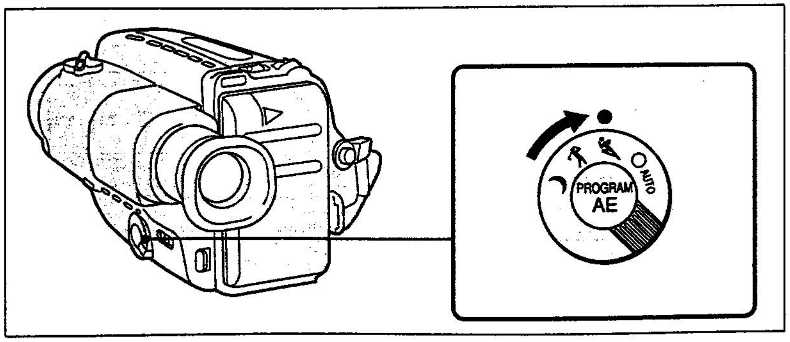
Sports mode
- Outdoor sports scenes such as football, tennis, golf or skiing
- A landscape in a moving car

High-speed shutter mode
- A golf swing or a tennis match in fine weather with the ball captured clearly
- Playing back certain scenes with high-speed movements in clear, sharp picture

Twilight mode
- Recording night views, neon signs or fireworks

Using the PROGRAM AE Function

Set the mark of the desired mode to the ● mark above the PROGRAM AE dial.

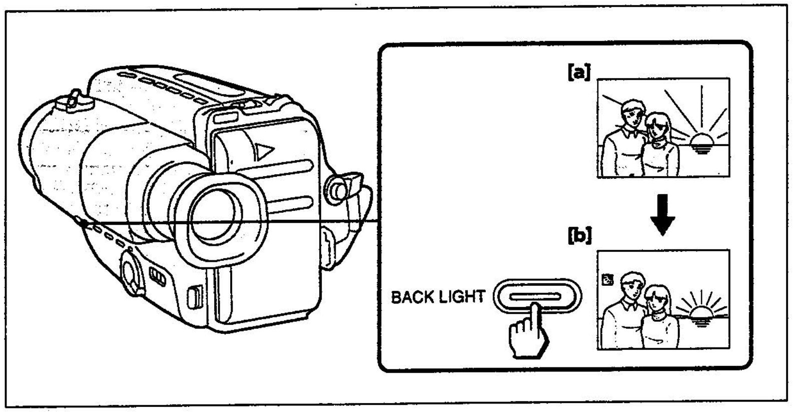


Note on shutter speed
The shutter speed in each PROGRAM AE mode is as follows:
Sports mode – between 1/60 to 1/500
High-speed shutter mode – 1/4000
Twilight mode – 1/60
AUTO mode – 1/60

Shooting with Backlighting

When you shoot a subject with the light source behind the subject or a subject with a light background, use the BACK LIGHT.

Press BACK LIGHT. The ▣ indicator appears inside the viewfinder.



[a] Subject is too dark because of backlight.
[b] Subject becomes bright with backlight compensation.

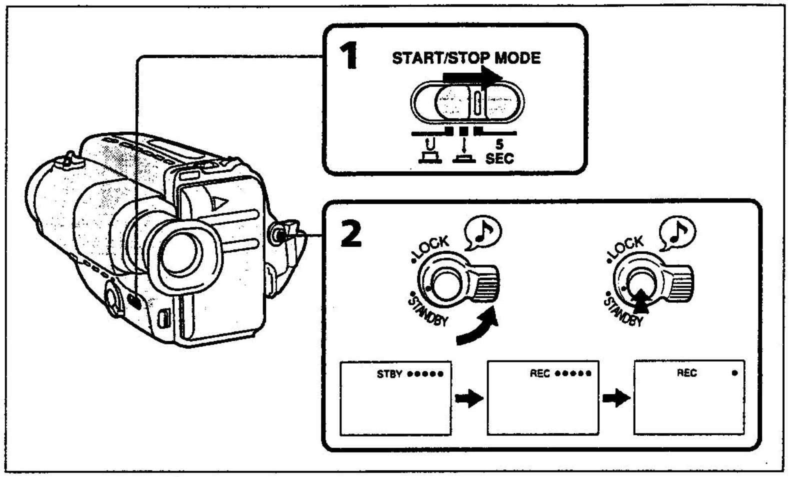
After Shooting

Press BACK LIGHT again to let the ▣ indicator go out under normal lighting condition. Otherwise, the picture will be too bright under normal lighting condition.

This function is also effective under following conditions:
- On the snow e.g. at the ski resort
- At the beach under strong sunshine
- A subject with a light source nearby or a mirror reflecting light
- A white subject against a white background. Especially when you shoot a person wearing shiny clothes made of silk or synthetic fiber, his or her face tends to become dark if you do not use this function.

Shooting Scenery in Several Short Takes

Long, continuous shots of scenery tend to be dull, and have to be edited to make an interesting video. With the 5 SEC (5-second recording) mode, the camcorder records for about 5 seconds and then switches to Standby mode, so that you will automatically take a series of quick shots resulting in a lively video.
(1) Slide the START/STOP MODE switch to 5 SEC.
(2) Turn STANDBY up and press START/STOP. Recording starts. Five dots appears in the viewfinder. The dots disappear at a rate of one per second. When five seconds elapse and all the dots disappear, the camcorder switches to Standby mode automatically.



To Extend the Recording Time

Press START/STOP again before all the dots disappear. Recording continues for about 5 seconds from the moment you press START/STOP.

To Cancel 5-Second Recording

Slide the START/STOP MODE switch to ⊥ (normal recording). If you slide the switch while recording, recording continues.

Superimposing a Title

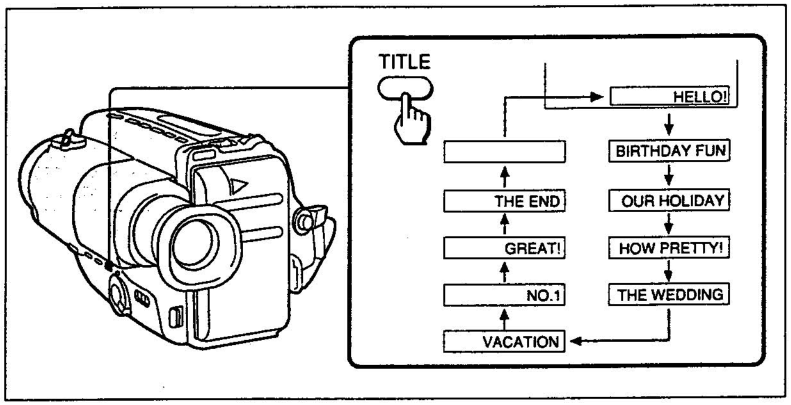
You can select from nine preset titles to superimpose it on the picture during recording. Each time you press TITLE, the preset titles appear one by one.

To Superimpose from the Beginning

(1) Turn the POWER switch to CAMERA.
(2) Turn STANDBY up.
(3) Press TITLE repeatedly until the desired title appears. The title flashes.
(4) Press START/STOP to start recording.
(5) Press TITLE when you want to turn off the title.

To Superimpose On the Way of Recording

(1) Press TITLE repeatedly until the desired title appears. The title flashes.
(2) When the title stops flashing, press TITLE. The title disappears.
(3) Press START/STOP to start recording.
(4) Press TITLE when you want to superimpose the title.
(5) Press TITLE when you want to turn off the title.



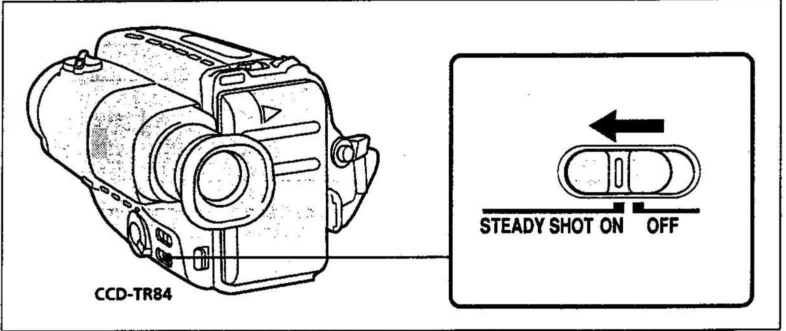
Note on selecting a title
You cannot select a title during recording.

Using the STEADY SHOT Function

— CCD-TR84/TR94 only
You can use the Steady Shot to compensate for camera-shake. Do not use the Steady Shot when shooting a stationary object with a tripod.

Using the STEADY SHOT Function

Slide STEADY SHOT to ON.



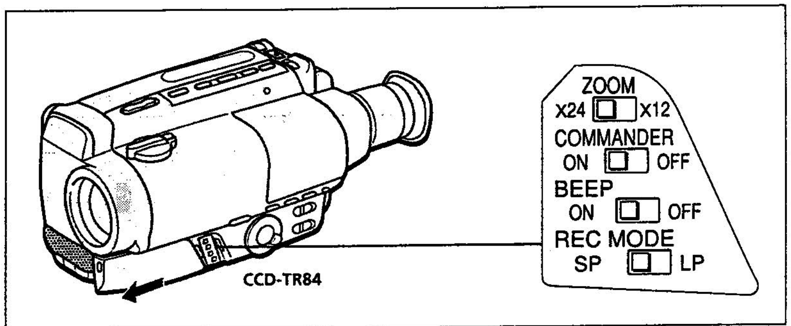
To Release the Steady Shot

Slide STEADY SHOT to OFF.

Notes on the Steady Shot
- The Steady Shot will not correct excessive camera-shake.
- When you switch the Steady Shot on or off, the exposure may fluctuate.

Changing the Mode Settings

You can change the mode settings to further enjoy the features and functions.
(1) Slide the cover to the left. You will find the mode switches.
(2) Set the mode switches to the desired mode.
(3) Close the cover.



Selecting the Mode Setting of Each Item

ZOOM <x24/x12> (CCD-TR74/TR84/TR94 only)
- Set to x24 to activate digital zooming.
- Set to x12 otherwise. The zooming ability becomes x12.

COMMANDER <ON/OFF>
- Set to ON when using the supplied Remote Commander* for the camcorder (For CCD-TR54/TR74/TR84/TR94 only).
  *** For CCD-TR44 users:**
  The Remote Commanders are available on option.
- Set to OFF when not using the Remote Commander for the camcorder.

BEEP <ON/OFF>
- Set to ON to turn the beep sound on.
- Set to OFF to turn the beep sound off.

REC MODE <SP/LP>
- Select SP to record a tape in SP (standard play) mode.
- Select LP to record a tape in LP (long play) mode.

Editing onto Another Tape

You can create your own video program by editing with any other 8 mm, Hi8, VHS, S-VHS, VHSC, S-VHSC, Betamax or ED Betamax VCR that has video/audio inputs.

After connecting the camcorder to the VCR (p. 18),
(1) Turn the POWER switch to PLAYER.
(2) Insert a blank tape (or a tape you want to record over) into the recording VCR. Then insert your recorded tape into the camcorder.
(3) Play back the recorded tape on the camcorder until you locate the point where you want to start editing. Then set the camcorder to playback pause mode.
(4) Set the recording VCR to recording pause mode.
(5) Press ❚❚ on the camcorder and VCR simultaneously to start editing.

To Edit More Scenes

Repeat steps 3 to 5.

To Stop Editing

Press ■ STOP on the camcorder and VCR.

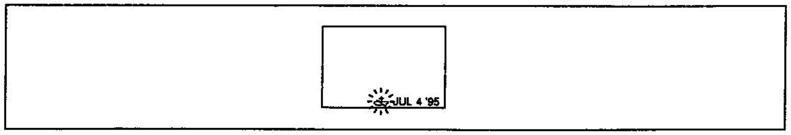
Use of the EDITSEARCH button

To play back a tape in the forward or reverse direction keep pressing EDITSEARCH during playback pause. You can play back still pictures successively at specific intervals by pressing EDITSEARCH intermittently.

Additional Information

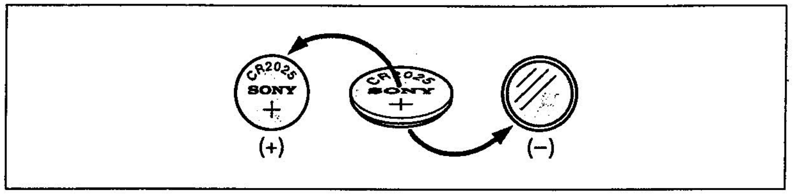
Changing the Lithium Battery In the Camcorder

Your camcorder is supplied with the lithium battery installed. The lithium battery lasts for about 1 year under normal operation. When the battery becomes weak or dead, indicator flashes in the viewfinder for about 5 seconds when you set the POWER switch to CAMERA. In this case, **replace the battery with the Sony CR2025 or Duracell DL-2025 lithium battery. Use of another battery may present a risk of fire or explosion.**



Note on Lithium Battery

Note that the lithium battery has a positive (+) and a negative (–) terminals as illustrated. **Be sure to install the lithium battery so that terminals on the battery match the terminals on the camcorder.**



WARNING

The battery may explode if mistreated. Do not recharge, disassemble, or dispose of in fire.

Caution

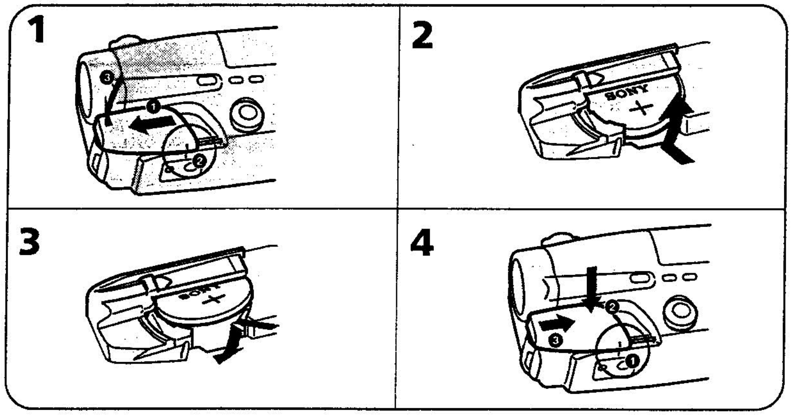
Keep the lithium battery out of the reach of children. Should the battery be swallowed, consult a doctor immediately.

Changing the Lithium Battery In the Camcorder

Changing the Lithium Battery

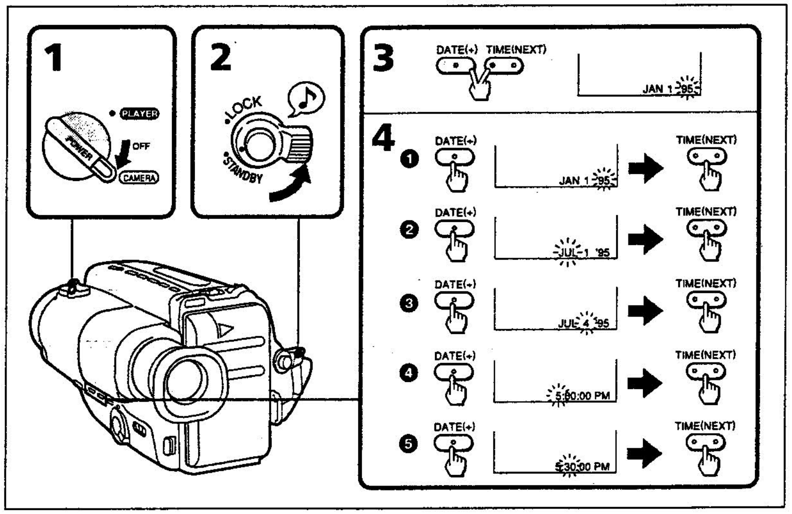
When replacing the lithium battery, keep the battery pack or other power source attached. Otherwise, you will need to reset the date and time.

(1) Slide the cover and align the mark of the cover to that of the body. Press down the cover.
(2) Push the battery in once and pull it out from the holder.
(3) Install the lithium battery with the positive (+) side facing out.
(4) Align the mark of the cover to that of the body. Press the cover until it clicks and slide the cover.


1
❶
❷
❸
2
SONY
3
SONY
4
❶
❷
❸

Resetting the Date and Time

Reset the date and time using the DATE(+) and TIME(NEXT) buttons.
(1) Turn the POWER switch to CAMERA.
(2) Turn STANDBY up.
(3) Press DATE(+) and TIME(NEXT) simultaneously until the year indicator flashes in the viewfinder.
(4) Set year, month, day, time, minute by pressing DATE(+) and TIME(NEXT). Note that when you keep DATE(+) pressed, the digits advance faster.


1
PLAYER
OFF
CAMERA
POWER
2
LOCK
STANDBY
3
DATE(+) TIME(NEXT)
JAN 1 '95
4
❶ DATE(+)
JAN 1 '95
TIME(NEXT)
❷ DATE(+)
JUL 1 '95
TIME(NEXT)
❸ DATE(+)
JUL 4 '95
TIME(NEXT)
❹ DATE(+)
5:00:00 PM
TIME(NEXT)
❺ DATE(+)
5:30:00 PM
TIME(NEXT)

To Correct the Date and Time Setting

Repeat steps 3 and 4.

To Check the Date and Time

Press DATE to display the date indicator in the viewfinder. Press TIME to display the time indicator. When you press the same button again, the indicator goes out.

The year indicator changes as follows:

'95 ——→ '96 ········→ '24

Note on the time indicator

The internal clock of the camcorder operates on a 12-hour cycle.
12:00:00 AM stands for midnight.
12:00:00 PM stands for noon.

Playback Modes

The playback mode is selected automatically according to the recording system (SP/LP mode) in which the tape was recorded.

Foreign 8 mm video
You cannot play software recorded on a different TV color system. Because the TV color systems differ from country to country, you may not be able to play back foreign pre-recorded software. Refer to page 42 to check the TV color system of foreign countries.

Tips for Using the Battery Pack

This section shows you how you can get the most out of your battery pack.

Preparing the Battery Pack

Always Carry Additional Batteries

Have sufficient battery pack power to do 2 to 3 times as much recording as you have planned.

Battery Life is Shorter in Cold Environment

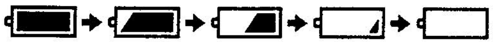
Battery efficiency is decreased and the battery will be used up more quickly if you are recording in cold environment.

To Save Battery Power

Turn the STANDBY switch on the camcorder down when not recording to save battery power. **[a]** on page 35.
A smooth transition between scenes can be made even if recording is stopped and started again. While positioning the subject, selecting an angle, or looking through the viewfinder lens, the lens moves automatically and the battery is used. The battery is also used when a cassette is inserted or removed.

When to Replace the Battery

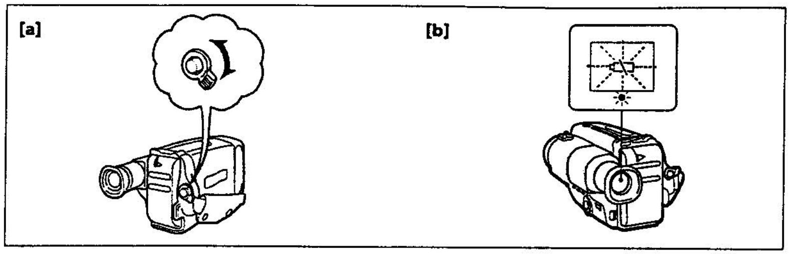
While you are using your camcorder in CAMERA mode, the remaining battery indicator decreases gradually as battery power is used up.



Tips for Using the Battery Pack

When the remaining battery indicator reaches the lowest point, the ⊂⊃ indicator appears and starts flashing in the viewfinder. **[b]**
When the ⊂⊃ indicator in the viewfinder changes from slow flashing to rapid flashing while you are recording, turn the POWER switch to OFF on the camcorder and replace the battery pack. Leave the tape in the camcorder to obtain smooth transition between scenes after the battery is replaced.

Note on the remaining battery indicator
The remaining battery indicator of the camcorder may indicate a different remaining capacity from that of the battery pack with the remaining battery indicator (not supplied). The indicator of the battery pack is more accurate.



Notes on the Rechargeable Battery Pack

Caution

Never leave the battery pack in temperatures above 140 °F (60 °C), such as in a car parked in the sun or under direct sunlight.

The Battery Heats Up

During charging or recording, the battery pack heats up. This is caused by energy that has been generated and a chemical change that has occurred inside the battery pack. This is not cause for concern.

Battery Pack Care

- Remove the battery pack from the camcorder after using the battery pack, and keep it in a cool place. When the battery pack is attached to the camcorder, a small amount of current flows to the camcorder even if the POWER switch is set to OFF, which shortens battery life.
- The battery pack is always discharging even when it is not in use after charging. Therefore, you should charge the battery right before using the camcorder.

How to Use the Switch on the Battery Pack

When the switch is supplied with the battry pack (**[c]** on p. 36) you can use it to find whether the battery pack is charged or not. Set the switch to the "no mark" position when charging is completed. Set the switch to the "red mark" position when the battery is used up (or in whichever direction you want to remind yourself).

The Life of the Battery Pack

If the ⊂⊃ indicator flashes rapidly just after turning on the camcordrer with a fully charged battery pack, the battery pack should be replaced with a new fully charged one.

Charging Temperature

You should charge batteries at temperatures from 50°F to 86°F (from 10°C to 30°C). Lower temperatures require a longer charging time.

Sony Batteries are Recommended

Use of non-Sony batteries may damage your Handycam camcorder.

Notes on Charging

A Brand-new Battery

A brand-new battery pack is not charged. Before using the battery pack, charge it completely.

After Long Storage

Recharge the battery pack after a long period of storage. If the battery pack is charged fully but not used for a long time (about 1 year), it becomes discharged. Charge it again, but in this case the battery life will be shorter than normal. After several charging and discharging cycles, the battery life will recover its original capacity.

Notes on the Terminals

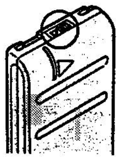
If the terminals (metal parts on the back) are not clean, the battery charge duration will be shortened.

When the terminals are not clean or when the battery pack has not been used for a long time, repeat installing and removing the battery pack a few times. This improves the contact condition. Also, wipe the + and – terminals with a soft cloth or paper.

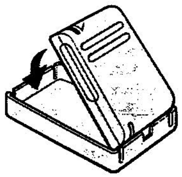
Be Sure to Observe the Following

- **To prevent an accident caused by a short circuit, do not allow metal objects such as a necklace to touch the battery terminals. Carry the battery pack attaching to the terminal cover. [d]**
- Keep the battery pack away from fire.
- Keep the battery pack dry.
- Do not open nor convert the battery pack.
- Do not expose the battery pack to any mechanical shock.

[c]



[d]



Notes on the Battery Case

- **Use only with alkaline batteries. You cannot use the battery case with manganese batteries or size AA rechargeable NiCd batteries.**
- Battery life is remarkably shorter in a cold environment (lower than 50 °F/10 °C).
- Keep the metal part clean. If it gets dirty, wipe it with a soft cloth.
- Do not disassemble or convert the battery case.
- Do not expose the battery case to any mechanical shock.
- During recording, the battery case heats up. This is not cause for concern.
- Prevent the electrode in the battery case from coming in contact with a metal object.
- If you will not use the battery case for a long time, detach the battery case from the camcorder and remove the batteries from the battery case.

Notes on Alkaline Batteries

To avoid possible damage from battery leakage or corrosion, observe the following.

- Be sure to insert the batteries in the correct direction.
- Alkaline batteries are not rechargeable.
- Do not use a combination of new and old batteries.
- Do not use different types of batteries.
- The batteries slowly discharge while not in use.
- Do not use a battery that is leaking.

If battery leakage occurred

- Wipe off the liquid in the battery case carefully before replacing the batteries.
- If you touch the liquid, wash it off with water.
- If the liquid get into your eyes, wash your eyes with a lot of water and then consult a doctor.

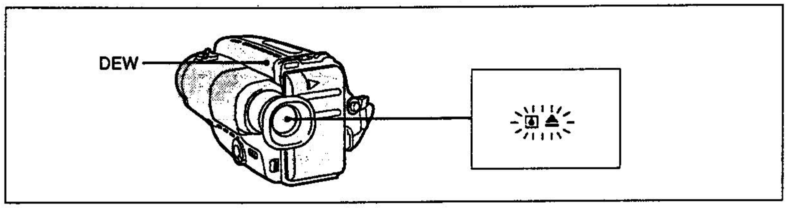
Maintenance Information and Precautions

Moisture Condensation

If the camcorder is brought directly from a cold place to a warm place, moisture may condense inside the camcorder, on the surface of the tape, or on the lens. If this happens, the tape may stick to the head drum and be damaged or the camcorder may not operate correctly. To prevent possible damage under these circumstances, the camcorder is furnished with moisture sensors. However, take the following precautions.

Inside the Camcorder

If there is moisture inside the camcorder, the beep sounds and the ▣ indicator or the DEW lamp flashes. If this happens, none of the function except cassette ejection will work. Open the cassette compartment, turn off the camcorder, and leave it about 1 hour. When ⏏ indicator flashes at the same time, the cassette is inserted in the camcorder. Eject the cassette, turn off the camcorder, and leave also the cassette about 1 hour.



On the Lens

No indicator will appear, but the picture becomes dim. Turn off the power and do not use the camcorder for about 1 hour.

How to Prevent Moisture Condensation

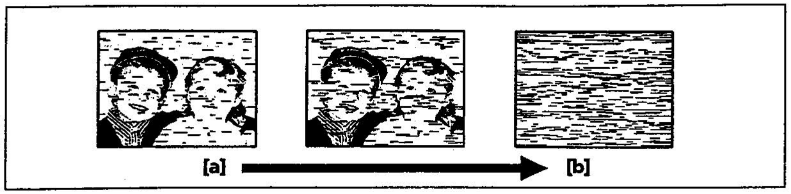
When bringing the camcorder from a cold place to a warm place, put the camcorder in a plastic bag and allow it to adapt to room conditions over a period of time.

(1) Be sure to tightly seal the plastic bag containing the camcorder.

(2) Remove the bag when the air temperature inside it has reached the temperature surrounding it (after about 1 hour).

Video Head Cleaning

To ensure clear pictures, clean the video heads. When ⊗ appears in the viewfinder in CAMERA mode or playback pictures are "noisy" or hardly visible, the video heads may be contaminated.



[a] Slight contamination
[b] Critical contamination

If this happens, clean the video heads with the Sony V8-25CLH cleaning cassette (not supplied). After checking the picture, if it is still "noisy", repeat the cleaning. (Do not repeat cleaning more than 5 times.)

Caution

Do not use a commercially available wet-type cleaning cassette. It may damage the video heads.

Note

If the V8-25CLH cleaning cassette is not available in your area, consult your nearest Sony dealer.

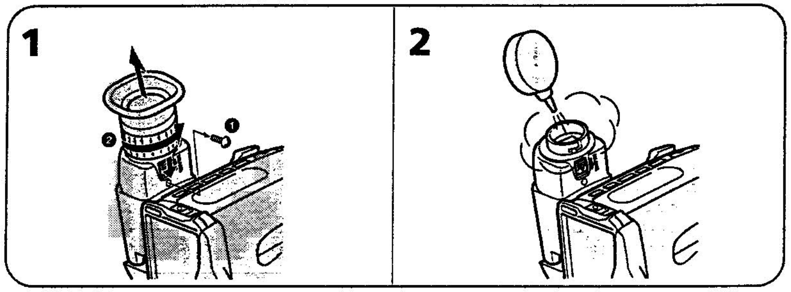
Maintenance Information and Precautions

Removing Dust from inside the Viewfinder

— CCD-TR44/TR54/TR84 only

(1) Remove the screw with a screwdriver (not supplied). Then, while sliding the RELEASE knob, turn the eyecup in the direction of the arrow and pull it out.

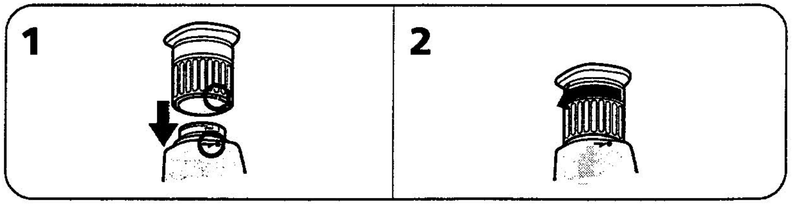
(2) Clean the surface with a commercially available blower.



To Reattach the Eyecup

(1) Align the groove on th eyecup with the • mark on the barrel.

(2) Turn the eyecup in the direction of the arrow. Then, replace the screw.



Caution

Do not remove any other screws. You may remove only the screw to remove the eyecup.

Precautions

Camcorder Operation

- Operate the camcorder using 6.0 V (battery pack), or 7.5 V (AC power adaptor).
- For DC or AC operation, use only the recommended accessories.
- Should any solid object or liquid fall into the casing, unplug the camcorder and have it checked by your nearest Sony dealer before operating it any further.
- Avoid rough handling or mechanical shock. Be particularly careful of the lens.
- Keep the POWER switch set to OFF when not using the camera.
- Do not wrap up the camcorder and operate it since heat may build up internally.
- Keep the camcorder away from strong magnetic fields or mechanical vibration.

On Handling Tapes

Do not insert anything into the small holes on the rear of the cassette. These holes are used to sense the type, thickness of tape, or if the tab is out or in.

Camcorder Care

- When the camcorder is not to be used for a long time, disconnect the power source and remove the cassette. Periodically turn on the power, operate the camera and player sections and play back a tape for about 3 minutes.
- Clean the lens with a soft brush to remove dust. If there are fingerprints on the lens, remove them with a soft cloth.
- Clean the camcorder body with a soft dry cloth, or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent which may damage the finish.

AC Power Adaptor

Charging

- Use only for the specified battery pack. This unit cannot be used to charge a lithium ion type battery.
- Attach the battery pack firmly.
- Charge the battery pack on a flat surface without vibration.

Others

- Unplug the unit from the wall (mains) outlet when not in use for a long time. To disconnect the cord (mains lead), pull it out by the plug. Never pull the cord itself.
- Do not operate the unit with a damaged cord or if the unit has been dropped or damaged.
- Do not bend the AC power cord (mains lead) forcibly, or put a heavy object on it. This will damage the cord and may cause a fire or an electrical shock.
- Be sure that nothing metallic comes into contact with the metal parts of the connecting plate. If this happens, a short may occur and the unit may be damaged.
- Always keep the metal contacts clean.
- Do not disassemble the unit.
- Do not apply mechanical shock or drop the unit.
- While the unit is in use, particularly during charging, keep it away from AM receivers and video equipment because it will disturb AM reception and video operation.
- The unit becomes warm while in use. This is normal.
- Do not place the unit in locations that are:
  - Extremely hot or cold
  - Dusty or dirty
  - Very humid
  - Vibrating

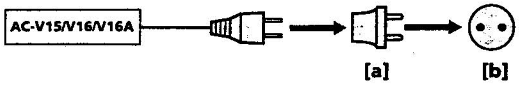
If any difficulty should arise, unplug the unit and contact your nearest Sony dealer.

Using Your Camcorder Abroad

Each country has its own electricity and TV color systems. Before using your camcorder abroad, check the following points:

Power Sources

You can use your camcorder in any country with the supplied AC power adaptor within 110 V to 240 V AC, 50/60 Hz. Use a commercially available AC plug adaptor **[a]**, if necessary, depending on the design of the wall outlet **[b]**.



Difference in Color Systems

This camcorder is an NTSC system-based camcorder. If you want to view the playback picture on a TV, it must be an NTSC system based TV. When you want to use a PAL M system based TV, you will need an NTSC/PAL M transcoder. Check the following alphabetical list.

NTSC system countries
Bahama Islands, Bolivia, Canada, Central America, Chile, Colombia, Ecuador, Jamaica, Japan, Korea, Mexico, Peru, Surinam, Taiwan, the Philippines, the U.S.A., Venezuela, etc.

PAL system countries
Australia, Austria, Belgium, China, Denmark, Finland, Germany, Great Britain, Holland, Hong Kong, Italy, Kuwait, Malaysia, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, Thailand, etc.

PAL M system country
Brazil

PAL N system countries
Argentina, Paraguay, Uruguay

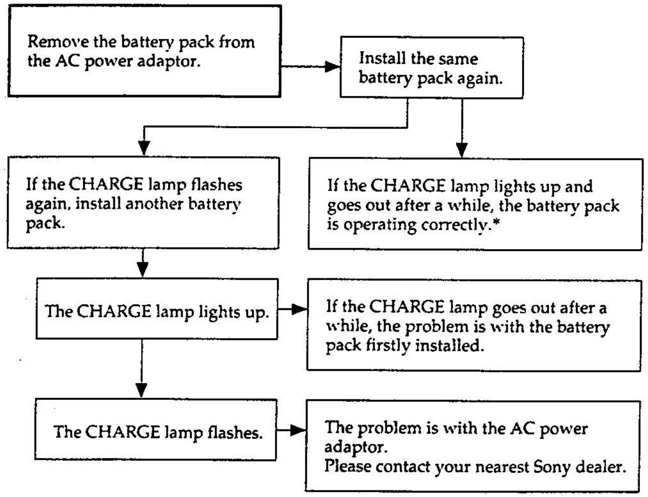
SECAM system countries
Bulgaria, Czech Republic, France, Guyana, Hungary, Iran, Iraq, Monaco, Poland, Russia, Slovak Republic, Ukraine, etc.

AC Power Adaptor

	Symptom	Cause	Corrective Actions	page
AC power adaptor	The POWER lamp does not light.	—	Set the selector to VTR (DC OUT) and disconnect the AC power cord. After about one minute, try again.	9
	The CHARGE lamp flashes.	See the following chart.		

When the CHARGE Lamp Flashes

Check through the following chart.



Remove the battery pack from the AC power adaptor.

Install the same battery pack again.

If the CHARGE lamp flashes again, install another battery pack.

If the CHARGE lamp lights up and goes out after a while, the battery pack is operating correctly.*

The CHARGE lamp lights up.

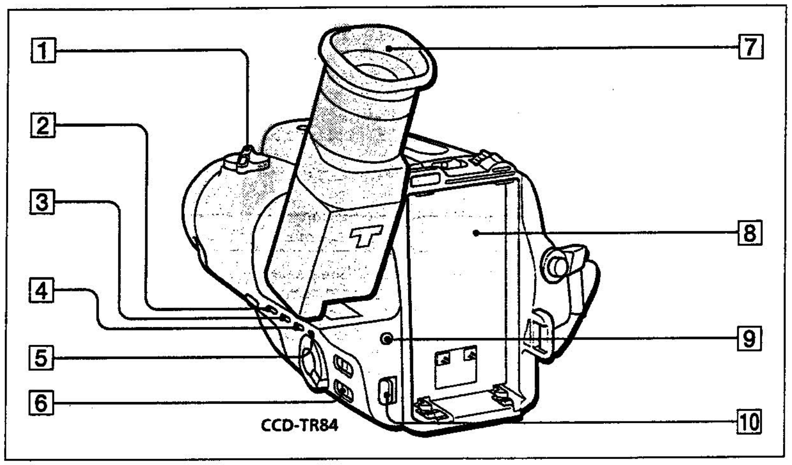
If the CHARGE lamp goes out after a while, the problem is with the battery pack firstly installed.

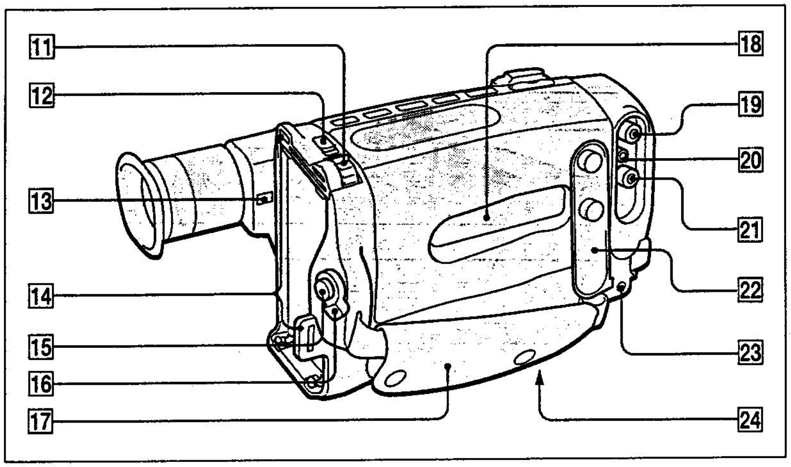
The CHARGE lamp flashes.

The problem is with the AC power adaptor.
Please contact your nearest Sony dealer.

* If you use a battery pack which you have just bought or which has been left unused for a long time, the CHARGE lamp may flash at the first charging. But this is not a problem. Repeat again to charge with the same battery pack.

Identifying the Parts





1 **POWER switch (p. 12, 19)**

2 **DATE(+) button (p. 23, 33)**

3 **TIME(NEXT) button (p. 23, 33)**

4 **TITLE button (p. 27)**

5 **COUNTER RESET button (p. 14)**

6 **STEADY SHOT mode switch (p. 28)**
For CCD-TR84/TR94 only

7 **Eyecup (p. 16)**

8 **Battery mounting surface (p. 10)**

9 **LANC ⓛ control jack**
Connect the LANC ⓛ connecting cable to a wired remote control unit such as an editing controller. In this case, set the COMMANDER mode to OFF (p. 29). ⓛ stands for Local Application Control Bus sytem. The ⓛ control jack is used for controlling the tape transport of video equipment and peripherals connected to it. This jack has the same function as the connectors indicated as CONTROL L or REMOTE.

10 **BATT (battery) release knob (p. 10)**

11 **Power zoom lever (p. 15)**

12 **EJECT knob (p. 11)**

13 **Eyecup release knob (p. 40)**
For CCD-TR44/TR54/TR84 only

14 **Hooks for shoulder strap (p. 51)**

15 **START/STOP button (p. 12)**

16 **STANDBY switch (p. 12)**

17 **Grip strap (p. 16)**

18 **Cassette compartment (p. 11)**

19 **VIDEO OUT jack (p. 18)**

20 **RFU DC OUT (RFU adaptor DC out) jack**

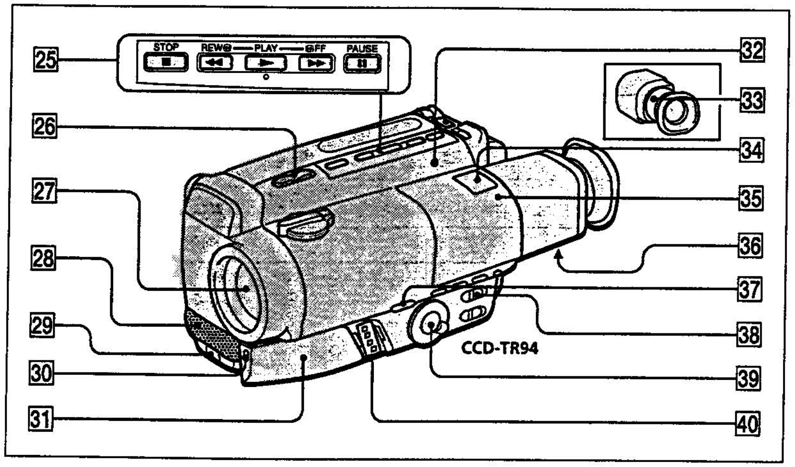
21 **AUDIO OUT jack (p. 18)**

22 **Jack cover**

23 **MIC (microphone) jack**
Connect an optional external microphone. This jack also accepts a "plug-in-power" microphone.

24 **Tripod receptacle (p. 16)**
Attach a tripod (not supplied) here.

Identifying the Parts



25 **Tape transport buttons (p. 19, 20)**
■ STOP
◀◀ REW (rewind)
► PLAY (playback)
▶▶ FF (fast forward)
❚❚ PAUSE
These buttons will function in PLAYER mode.

26 **EDITSEARCH button (p. 17)**

27 **Lens cover**

28 **Built-in microphone**

29 **Remote sensor (p. 53)**

30 **Camera recording/battery lamp**

31 **Lithium battery compartment (p. 32)**

32 **DEW lamp (p. 38)**

33 **Viewfinder adjustment ring (p. 13)**
For CCD-TR44/TR54/TR84 only

34 **Lighting aperture**
For CCD-TR74/TR94 only

35 **Viewfinder (p. 13, 54)**

36 **Viewfinder adjustment lever (p. 13)**
For CCD-TR74/TR94 only

37 **BACK LIGHT button (p. 25)**

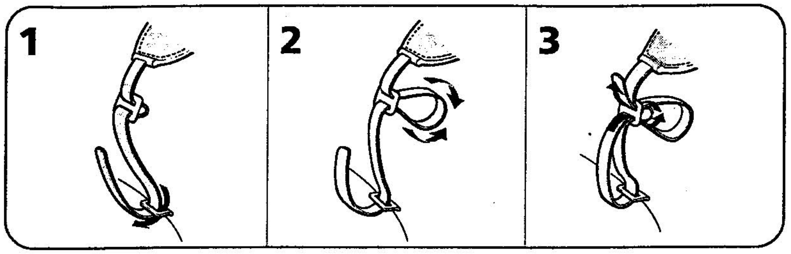
38 **START/STOP MODE switch (p. 12, 13, 26)**

39 **PROGRAM AE dial (p. 24)**

40 **Mode switches (p. 29)**

Attaching the shoulder strap

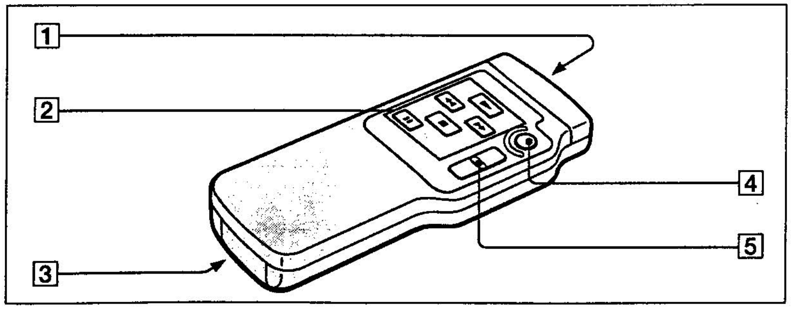
Attach the supplied shoulder strap to the hooks for the shoulder strap (14 on page 49).



Remote Commander

— For CCD-TR54/TR74/TR84/TR94 only

The buttons that have the same name on the Remote Commander and on the camcorder function identically.



1 **Transmitter**
Point toward the remote sensor to control the camcorder after turning on the POWER switch on the camcorder.

2 **Tape transport buttons (p. 19, 20)**

3 **Size AA (R6) battery holder (p. 52)**

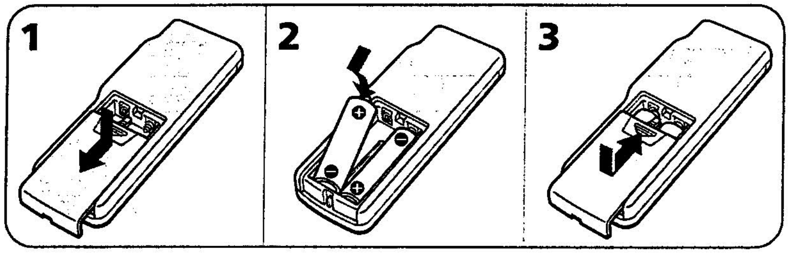
4 **START/STOP button**

5 **Power zoom button**
The zooming speed is unchangeable on the Remote Commander.

Preparing the Remote Commander

To use the Remote Commander, you must insert two size AA (R6) batteries. Use the supplied size AA (R6) batteries.

(1) Remove the battery cover from the Remote Commander.
(2) Insert both of the size AA (R6) batteries with correct polarity.
(3) Put the battery cover back onto the Remote Commander.



Note on battery life

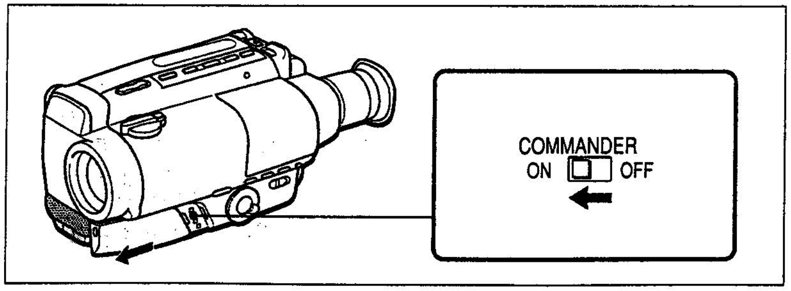
The batteries for the Remote Commander last about 6 months under normal operation. When the batteries become weak or dead, the Remote Commander does not work.

To avoid damage from possible battery leakage

Remove the batteries when you will not use the Remote Commander for a long time.

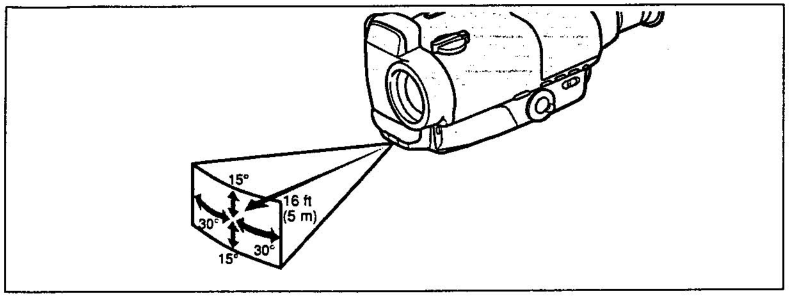
Using the Remote Commander

Make sure that the COMMANDER mode is set to ON (p. 29).



Remote Control Direction

Aim the Remote Commander to the remote sensor within the range as shown below.



Notes on the Remote Commander

- Keep the remote sensor away from strong light sources such as direct sunlight or illumination. Otherwise, the remote control may not be effective.
- Be sure that there is no obstacle between the remote sensor and the Remote Commander.
- This camcorder works at commander mode VTR 2. The commander modes (1, 2, and 3) are used to distinguish this camcorder from other Sony VCRs to avoid remote control misoperation. If you use another Sony VCR at commander mode VTR 2, we recommend you change the commander mode or cover the remote sensor of the VCR with black paper.

To Watch the Demonstration

You can watch a brief demonstration of pictures with titles.

If the demonstration appears when you turn on the camcorder for the first time, exit the Demo mode to use your camcorder.

To enter Demo mode

(1) Eject the cassette and turn the POWER switch to OFF.
(2) Turn STANDBY up.
(3) While holding down ► PLAY, turn the POWER switch to CAMERA. Demonstration starts. The demonstration stops when you insert the cassette.

Note that once you enter Demo mode, this mode is retained as long as the lithium battery is in place. Therefore, demonstration starts automatically 10 minutes later every time you turn the POWER switch to CAMERA, or after you eject the cassette.

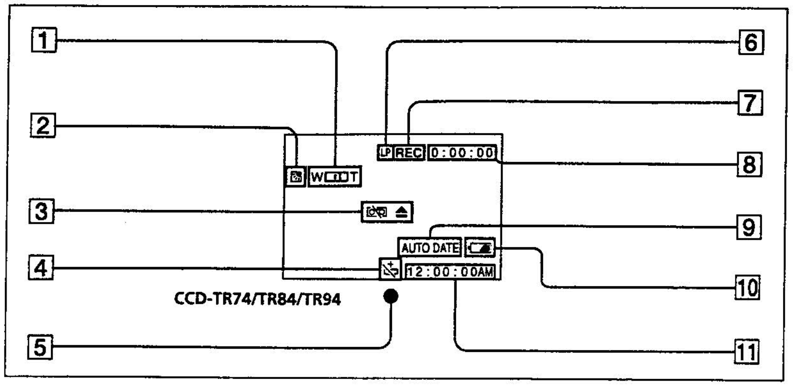
To exit Demo mode

(1) Turn the POWER switch to OFF.
(2) Turn STANDBY up.
(3) While holding down ■ STOP, turn the POWER switch to CAMERA.

Identifying the Parts

In the Viewfinder

The indicators appear in CAMERA mode only.



1 **Power zoom indicator (p. 15)**
For CCD-TR74/TR84/TR94 only

2 **Backlight indicator (p. 25)**

3 **Warning indicator (p. 55)**

4 **Lithium battery indicator (p. 31)**

5 **Recording lamp/battery lamp (p. 12)**

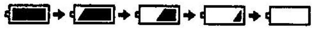
6 **Recording in LP mode (p. 12)**

7 **Tape transport mode (p. 12)**

8 **Tape counter (p. 14)**

9 **AUTO DATE indicator (p. 12)**

10 **Remaining battery indicator (p. 34)**

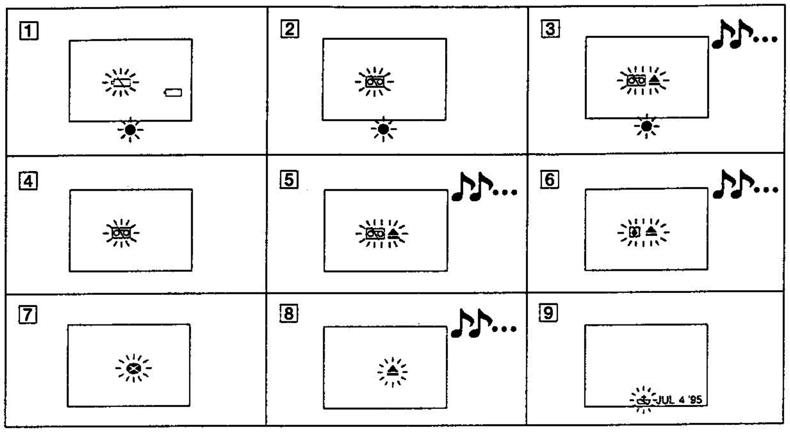


11 **Date, Time or Title (p. 23, 27)**

Warning Indicators

All indicators appear only when you use the camcorder in CAMERA mode.
If indicators flash in the viewfinder, or a caution lamp on the camcorder flashes, check the following:

♪: You can hear the beep sound when BEEP is set to ON (p. 29).



1 Battery Remaining
Slow flashing: The battery is weak.
Fast flashing: The battery is dead.

2 The tape is near the end.

3 The tape has run out.

4 No tape has been inserted.

5 The tab on the tape is out (red) (p. 11).

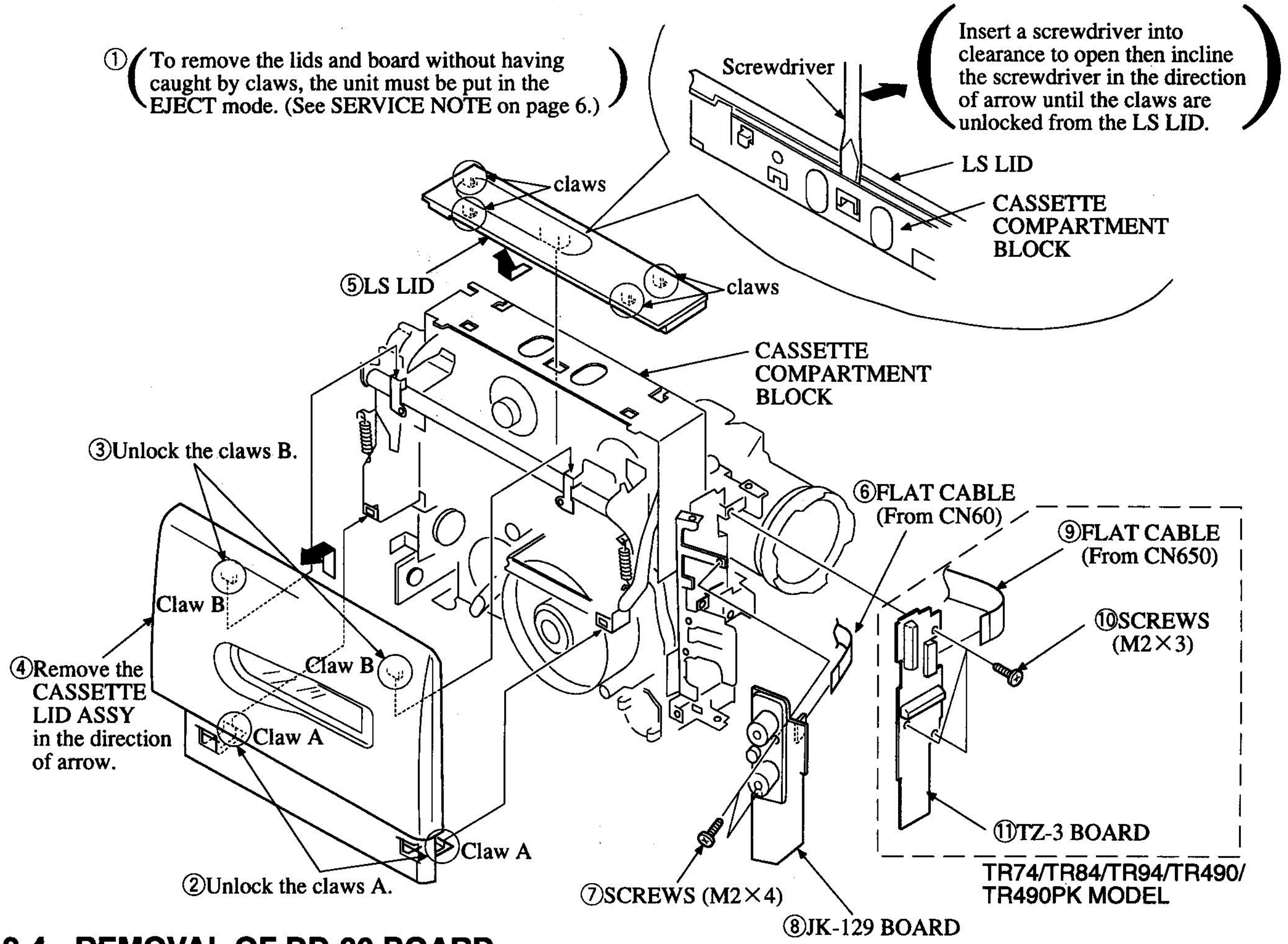
6 Moisture condensation has occurred (p. 38).
⏏ indicator appears only when the cassette is inserted.

7 The video heads may be contaminated (p. 39).

8 Some other trouble has occurred.
Disconnect the power source and contact your Sony dealer or local authorized facility.

9 The lithium battery is weak or the lithium battery is not installed (p. 31).
This indicator flashes just only after powering on.

2-3. REMOVAL OF CASSETTE LID ASSY, LS LID, JK-129 and TZ-3 BOARD

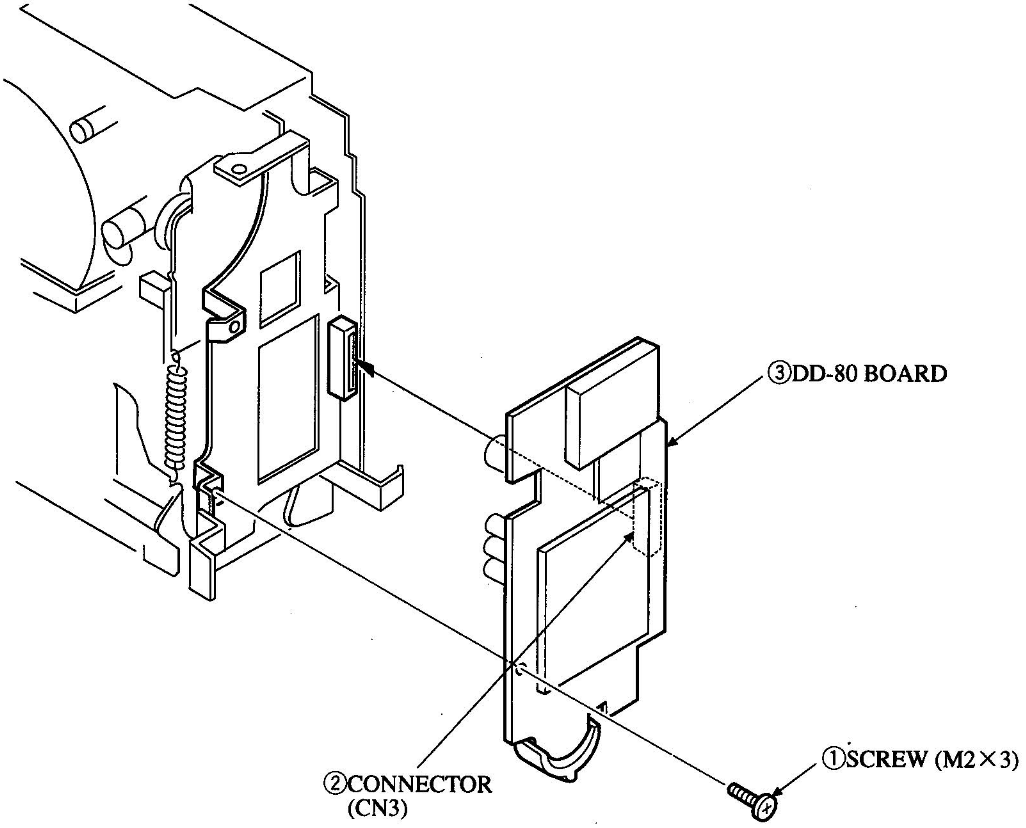


① (To remove the lids and board without having caught by claws, the unit must be put in the EJECT mode. (See SERVICE NOTE on page 6.))

(Insert a screwdriver into clearance to open then incline the screwdriver in the direction of arrow until the claws are unlocked from the LS LID.)

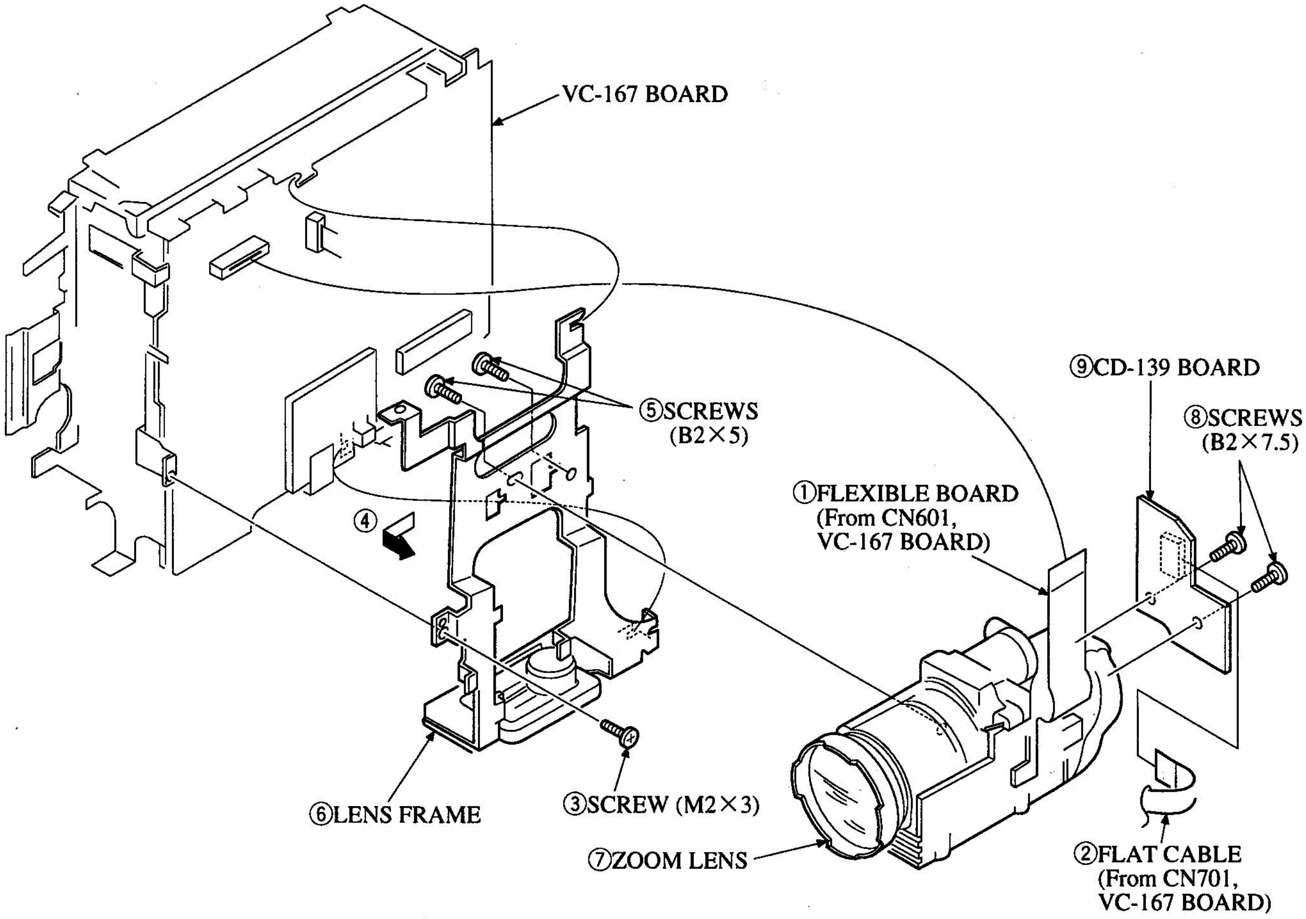
Screwdriver
LS LID
CASSETTE COMPARTMENT BLOCK
claws
claws
⑤LS LID
CASSETTE COMPARTMENT BLOCK
③Unlock the claws B.
Claw B
Claw B
④Remove the CASSETTE LID ASSY in the direction of arrow.
Claw A
Claw A
②Unlock the claws A.
⑥FLAT CABLE (From CN60)
⑨FLAT CABLE (From CN650)
⑩SCREWS (M2×3)
⑪TZ-3 BOARD
TR74/TR84/TR94/TR490/TR490PK MODEL
⑦SCREWS (M2×4)
⑧JK-129 BOARD

2-4. REMOVAL OF DD-80 BOARD

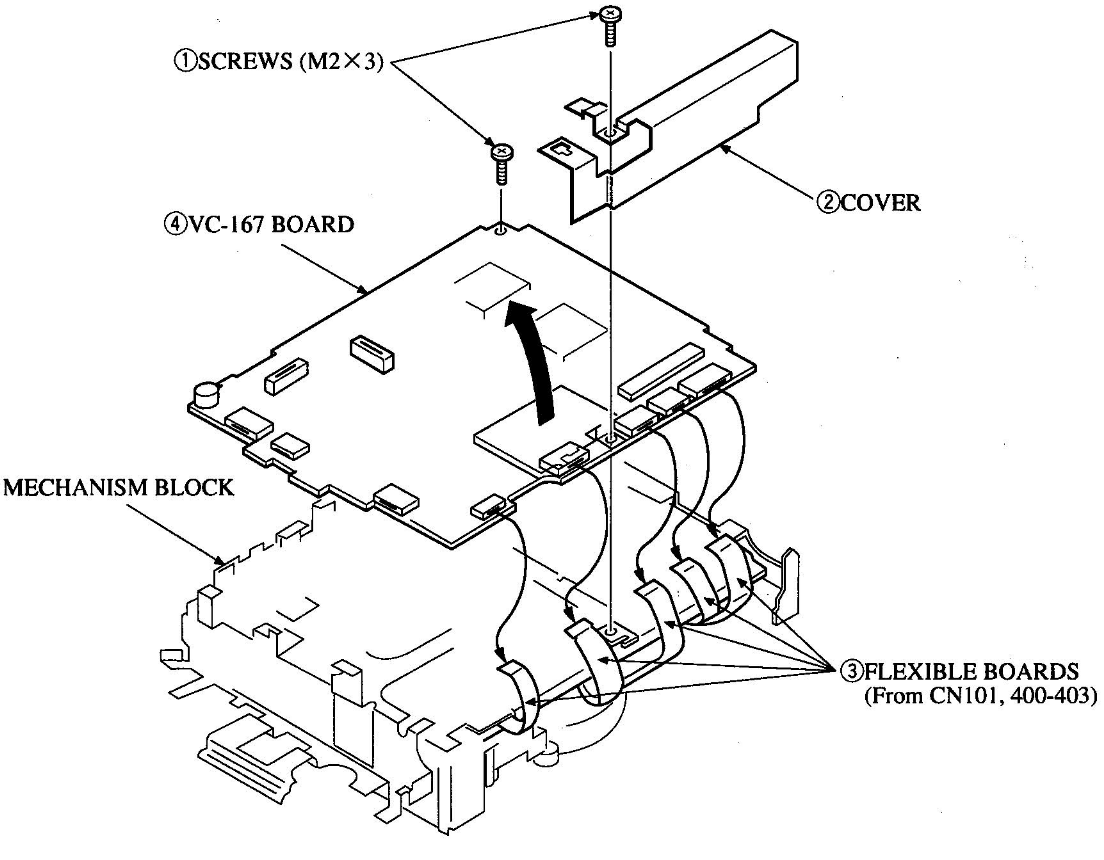


③DD-80 BOARD
①SCREW (M2×3)
②CONNECTOR (CN3)

2-5. REMOVAL OF ZOOM LENS and CD-139 BOARD

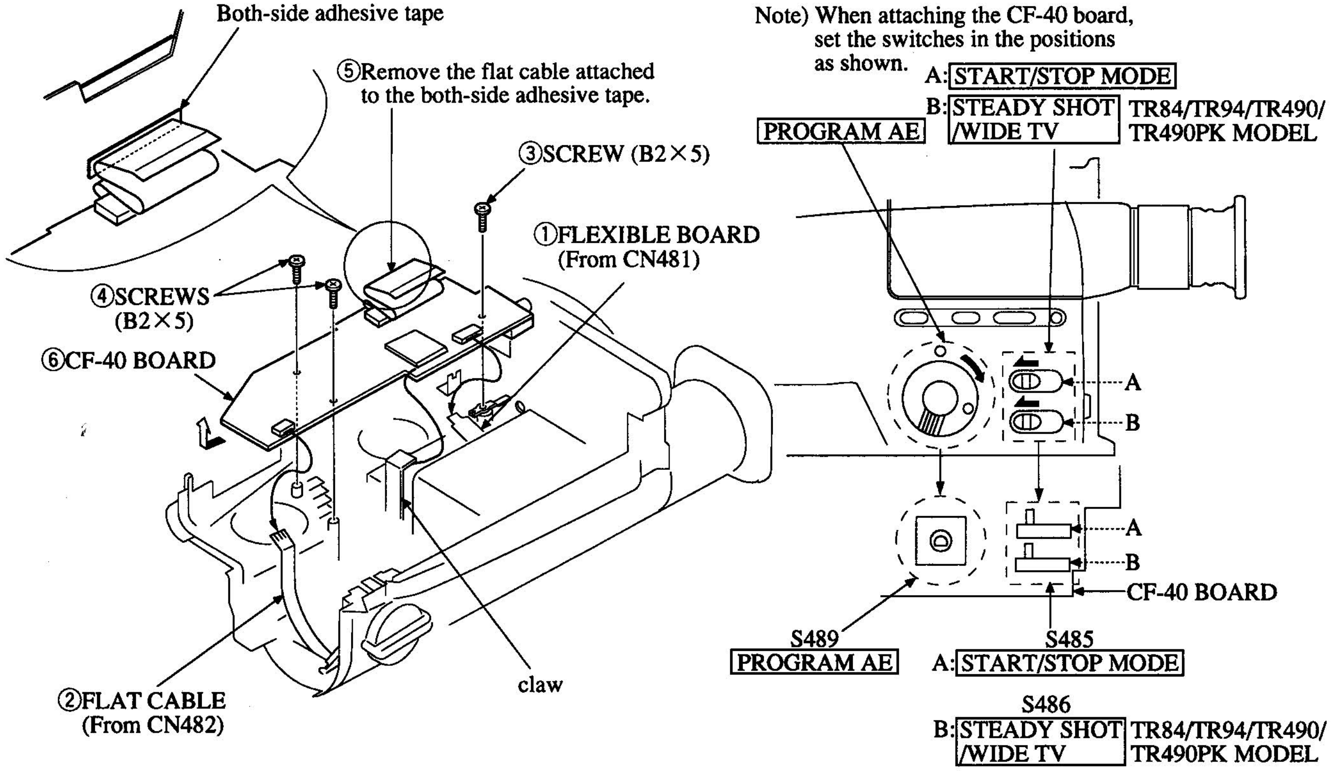

VC-167 BOARD
⑤SCREWS
(B2×5)
⑨CD-139 BOARD
⑧SCREWS
(B2×7.5)
④
①FLEXIBLE BOARD
(From CN601,
VC-167 BOARD)
⑥LENS FRAME
③SCREW (M2×3)
⑦ZOOM LENS
②FLAT CABLE
(From CN701,
VC-167 BOARD)

2-6. REMOVAL OF VC-167 BOARD


①SCREWS (M2×3)
②COVER
④VC-167 BOARD
MECHANISM BLOCK
③FLEXIBLE BOARDS
(From CN101, 400-403)

2-7. REMOVAL OF CF-40 BOARD

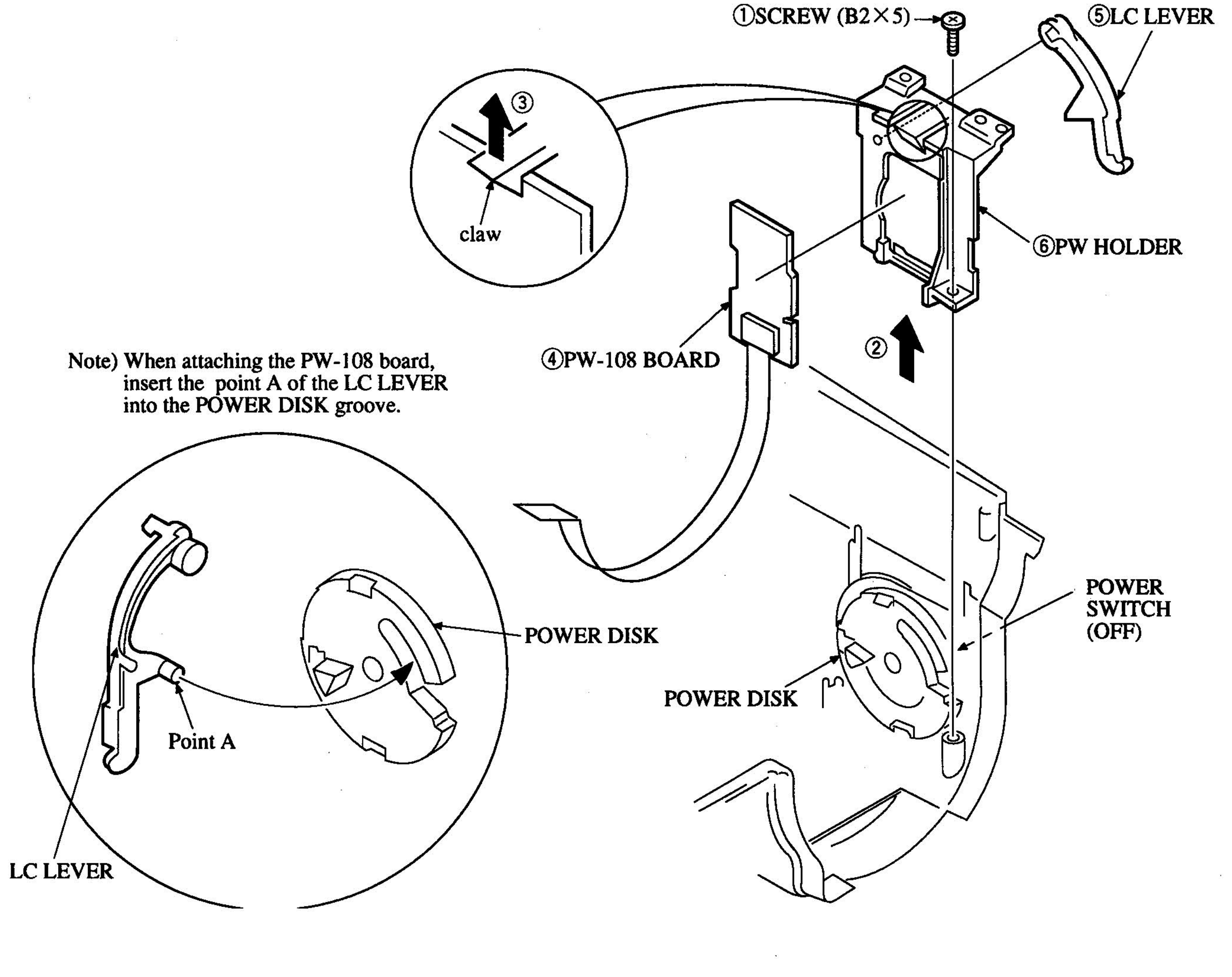
Note) When attaching the CF-40 board, set the switches in the positions as shown.



Both-side adhesive tape
⑤Remove the flat cable attached to the both-side adhesive tape.
③SCREW (B2×5)
①FLEXIBLE BOARD (From CN481)
④SCREWS (B2×5)
⑥CF-40 BOARD
②FLAT CABLE (From CN482)
claw
A: START/STOP MODE
B: STEADY SHOT /WIDE TV
TR84/TR94/TR490/ TR490PK MODEL
PROGRAM AE
A
B
A
B
CF-40 BOARD
S489
PROGRAM AE
S485
A: START/STOP MODE
S486
B: STEADY SHOT /WIDE TV
TR84/TR94/TR490/ TR490PK MODEL

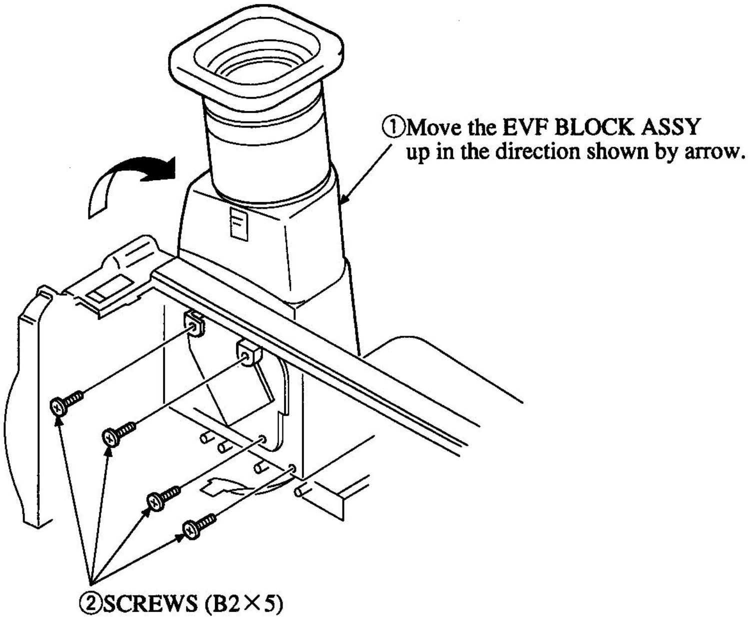
2-8. REMOVAL OF PW-108 BOARD

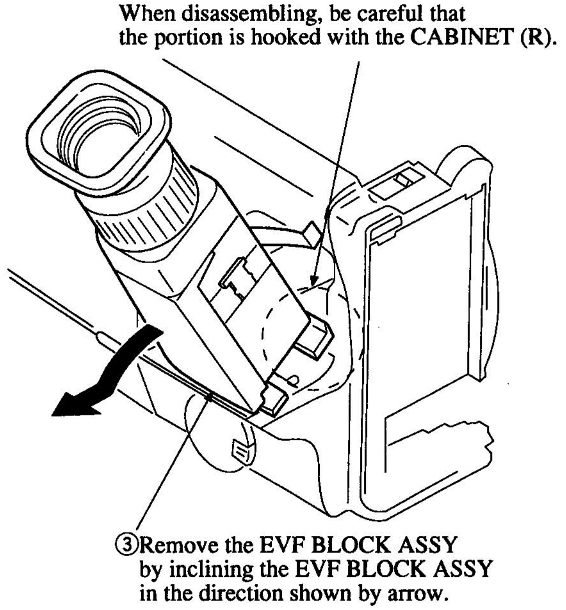
Note) When attaching the PW-108 board, insert the point A of the LC LEVER into the POWER DISK groove.



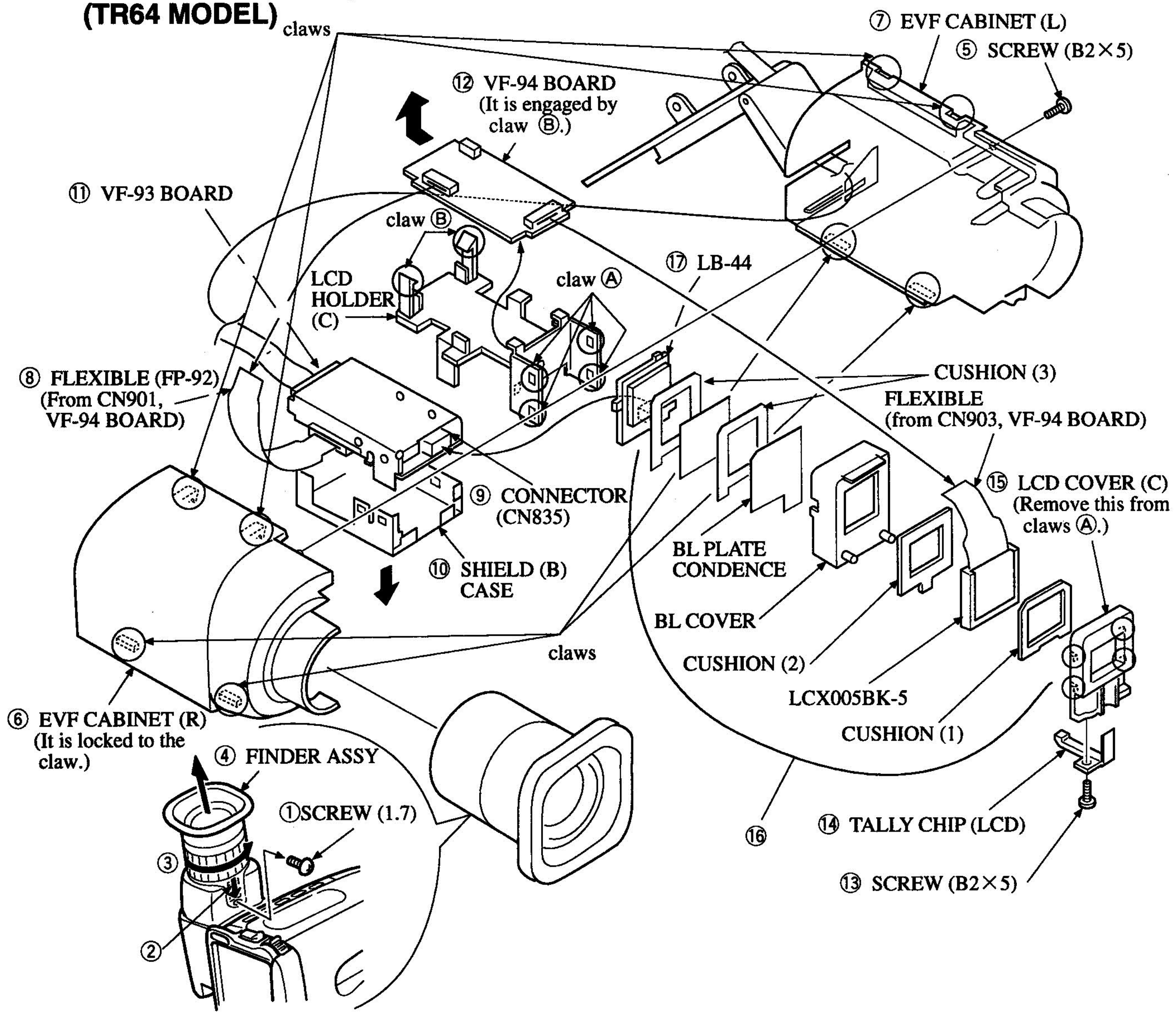
①SCREW (B2×5)
⑤LC LEVER
③
claw
⑥PW HOLDER
④PW-108 BOARD
②
POWER SWITCH (OFF)
POWER DISK
POWER DISK
Point A
LC LEVER

2-9. REMOVAL OF EVF BLOCK ASSY

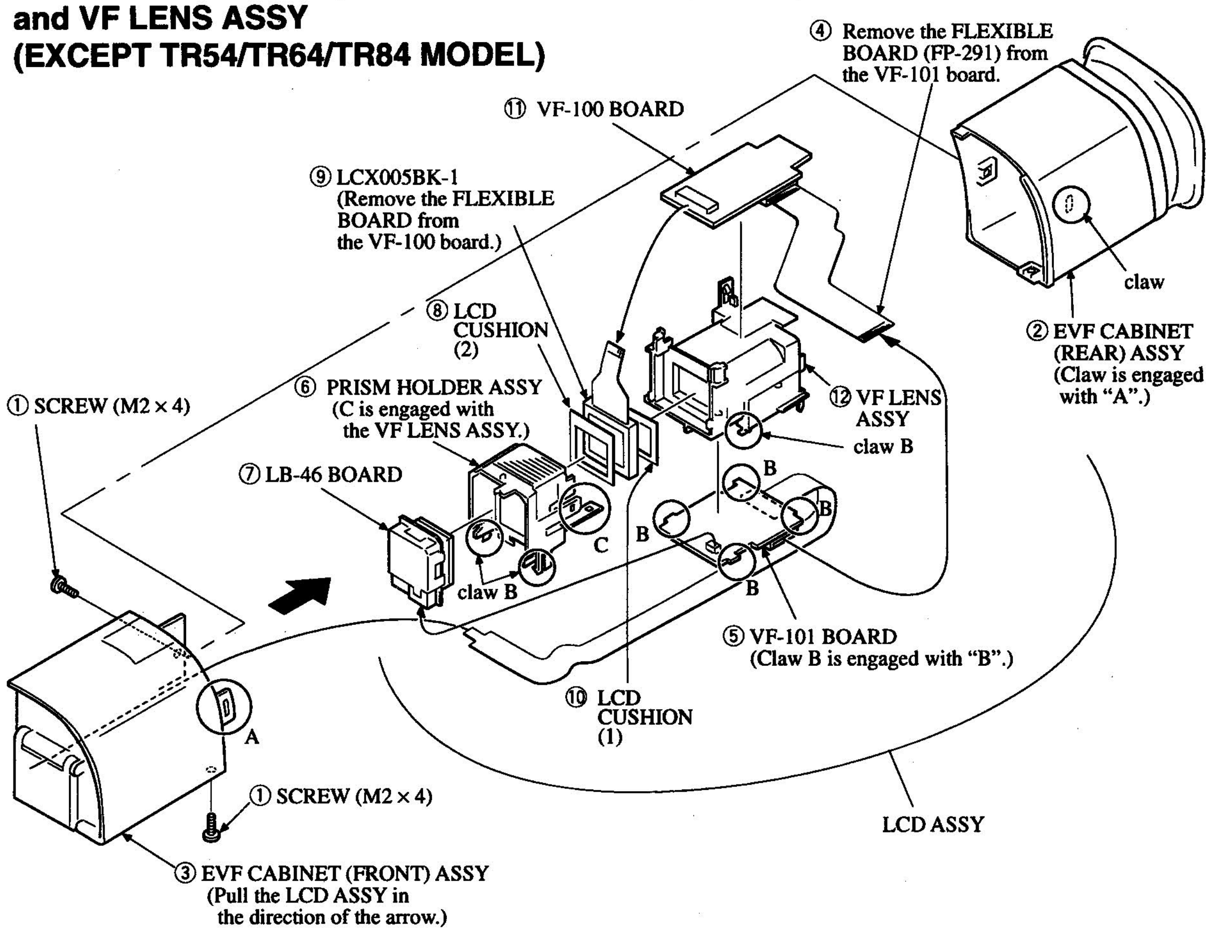

①Move the EVF BLOCK ASSY up in the direction shown by arrow.
②SCREWS (B2×5)


When disassembling, be careful that the portion is hooked with the CABINET (R).
③Remove the EVF BLOCK ASSY by inclining the EVF BLOCK ASSY in the direction shown by arrow.

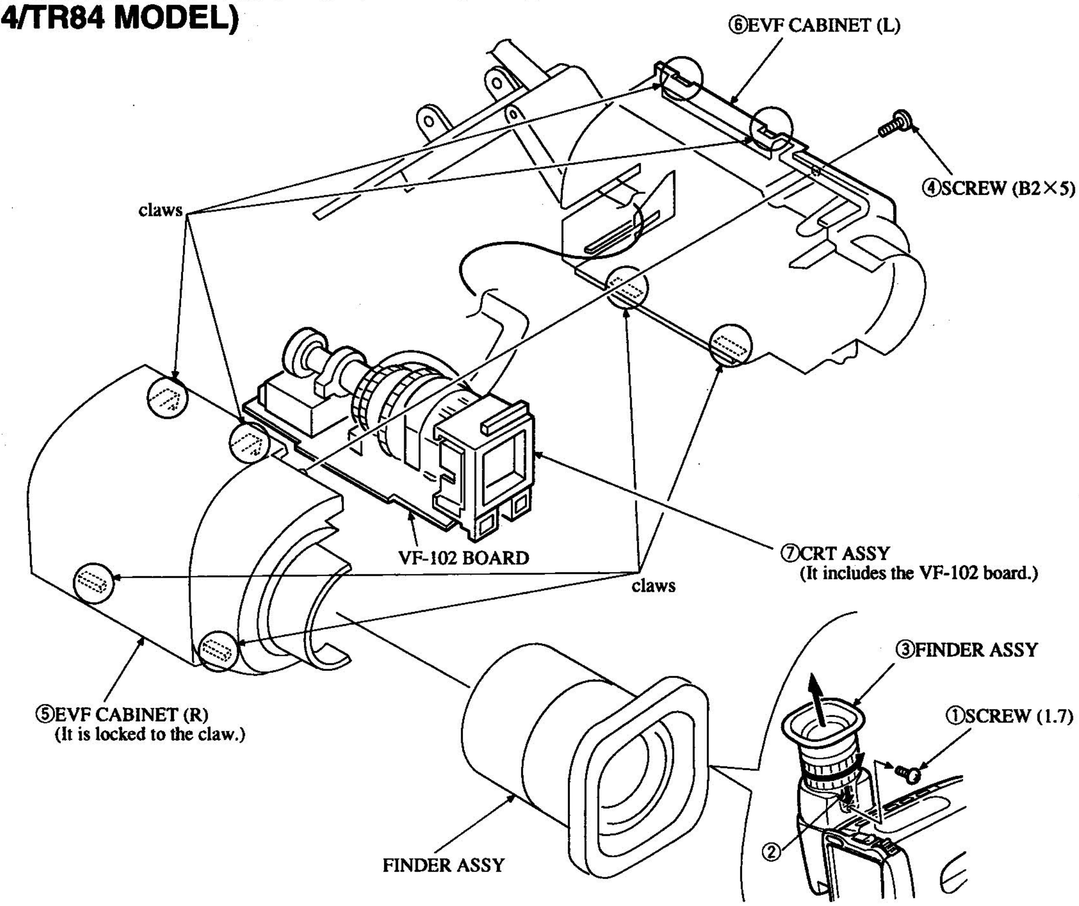
2-10. REMOVAL OF VF-93, VF-94 and LB-44 BOARD (TR64 MODEL)


claws
⑦ EVF CABINET (L)
⑤ SCREW (B2×5)
⑫ VF-94 BOARD (It is engaged by claw Ⓑ.)
⑪ VF-93 BOARD
claw Ⓑ
LCD HOLDER (C)
claw Ⓐ
⑰ LB-44
⑧ FLEXIBLE (FP-92) (From CN901, VF-94 BOARD)
CUSHION (3)
FLEXIBLE (from CN903, VF-94 BOARD)
⑨ CONNECTOR (CN835)
⑮ LCD COVER (C) (Remove this from claws Ⓐ.)
⑩ SHIELD (B) CASE
BL PLATE CONDENCE
BL COVER
claws
CUSHION (2)
LCX005BK-5
CUSHION (1)
⑥ EVF CABINET (R) (It is locked to the claw.)
④ FINDER ASSY
①SCREW (1.7)
③
②
⑯
⑭ TALLY CHIP (LCD)
⑬ SCREW (B2×5)

2-11. REMOVAL OF VF-101, PRISM HOLDER ASSY, LB-46, VF-100 BOARD and VF LENS ASSY (EXCEPT TR54/TR64/TR84 MODEL)

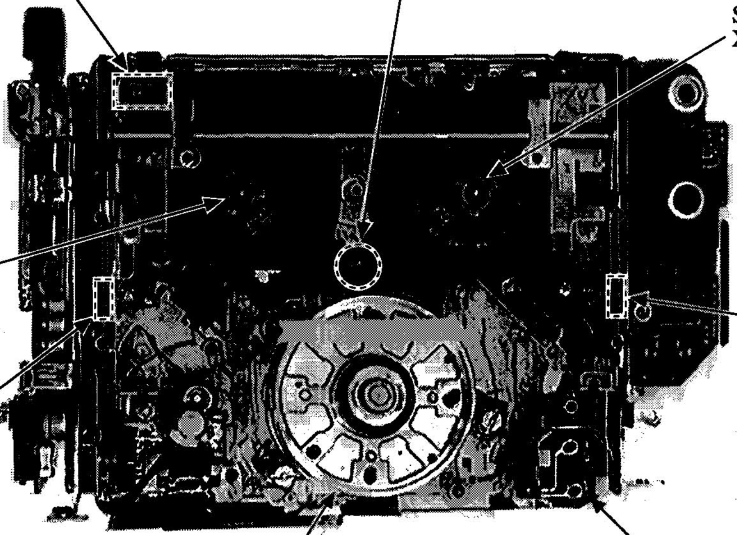

④ Remove the FLEXIBLE BOARD (FP-291) from the VF-101 board.
⑪ VF-100 BOARD
⑨ LCX005BK-1 (Remove the FLEXIBLE BOARD from the VF-100 board.)
claw
② EVF CABINET (REAR) ASSY (Claw is engaged with "A".)
⑧ LCD CUSHION (2)
⑥ PRISM HOLDER ASSY (C is engaged with the VF LENS ASSY.)
⑫ VF LENS ASSY
① SCREW (M2 × 4)
claw B
⑦ LB-46 BOARD
B
B
B
C
B
claw B
⑤ VF-101 BOARD (Claw B is engaged with "B".)
⑩ LCD CUSHION (1)
A
① SCREW (M2 × 4)
LCD ASSY
③ EVF CABINET (FRONT) ASSY (Pull the LCD ASSY in the direction of the arrow.)

2-12. REMOVAL OF CRT ASSY and VF-102 BOARD (TR54/TR84 MODEL)


⑥EVF CABINET (L)
④SCREW (B2×5)
claws
VF-102 BOARD
⑦CRT ASSY (It includes the VF-102 board.)
claws
③FINDER ASSY
⑤EVF CABINET (R) (It is locked to the claw.)
①SCREW (1.7)
②
FINDER ASSY

2-13. INTERNAL VIEWS

—LEFT SIDE—



S001
REC PROOF SWITCH
1-692-614-11

D001
DIODE GL453S
8-719-988-42

S REEL DECK ASSY
X-3945-397-1

T REEL DECK ASSY
X-3945-398-1

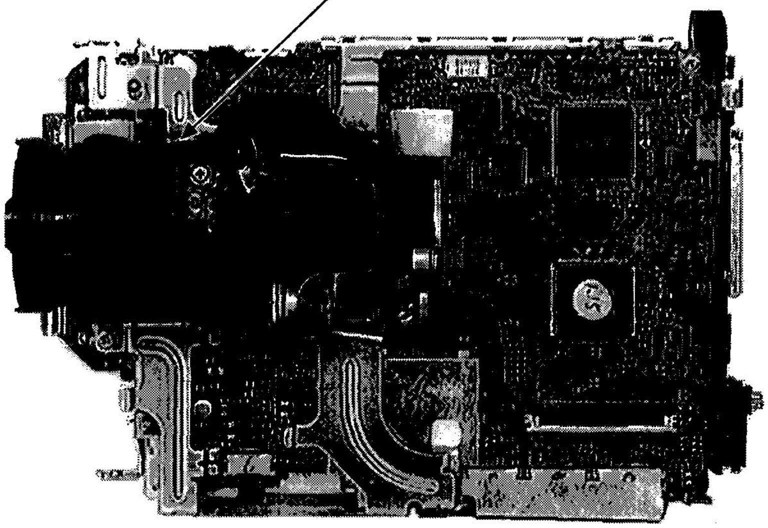
Q002
PHOTO TRANSISTOR PT4850F
8-729-907-25

Q001
PHOTO TRANSISTOR
PT4850F
8-729-907-25

M903
LOADING MOTOR
X-3945-401-1

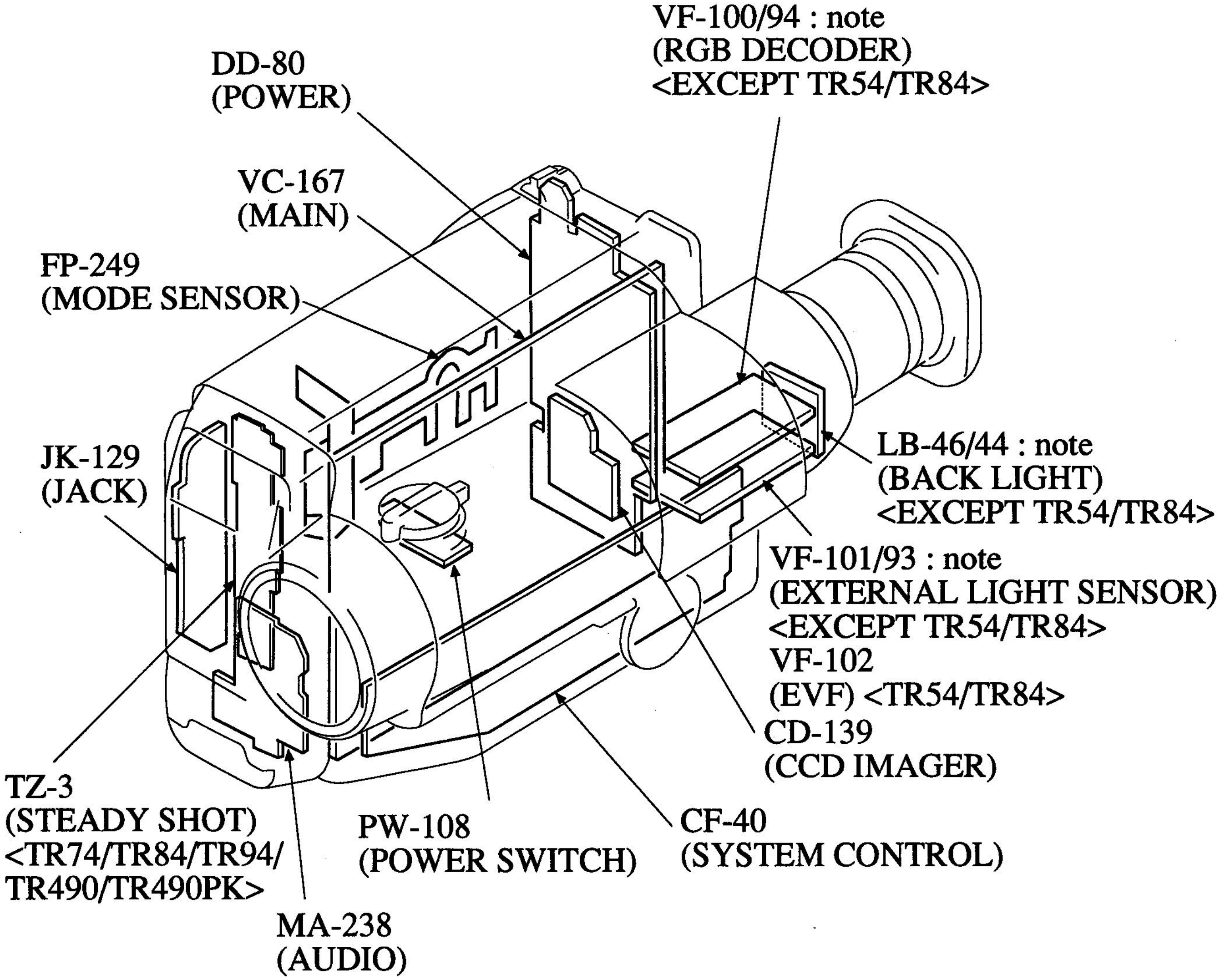
M901
DRUM BLOCK ASSY (DGH-OC1A-R)
A-7048-804-A

—RIGHT SIDE—



ZOOM LENS (VCL-5412WB)
1-547-739-21

2-14. CIRCUIT BOARDS LOCATION


VF-100/94 : note
(RGB DECODER)
<EXCEPT TR54/TR84>
DD-80
(POWER)
VC-167
(MAIN)
FP-249
(MODE SENSOR)
JK-129
(JACK)
LB-46/44 : note
(BACK LIGHT)
<EXCEPT TR54/TR84>
VF-101/93 : note
(EXTERNAL LIGHT SENSOR)
<EXCEPT TR54/TR84>
VF-102
(EVF) <TR54/TR84>
CD-139
(CCD IMAGER)
TZ-3
(STEADY SHOT)
<TR74/TR84/TR94/
TR490/TR490PK>
PW-108
(POWER SWITCH)
CF-40
(SYSTEM CONTROL)
MA-238
(AUDIO)

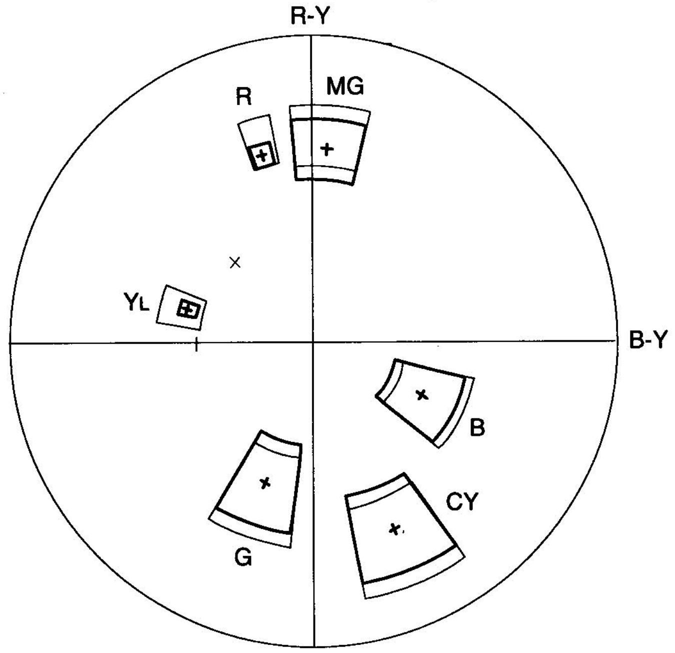
: note

TR64	EXCEPT TR64
VF-94	VF-100
VF-93	VF-101
LB-44	LB-46

FOR CAMERA COLOR REPRODUCTION ADJUSTMENT

Take a copy of CAMERA COLOR REPRODUCTION FRAME and Parts reference sheets with a clear sheet for use.

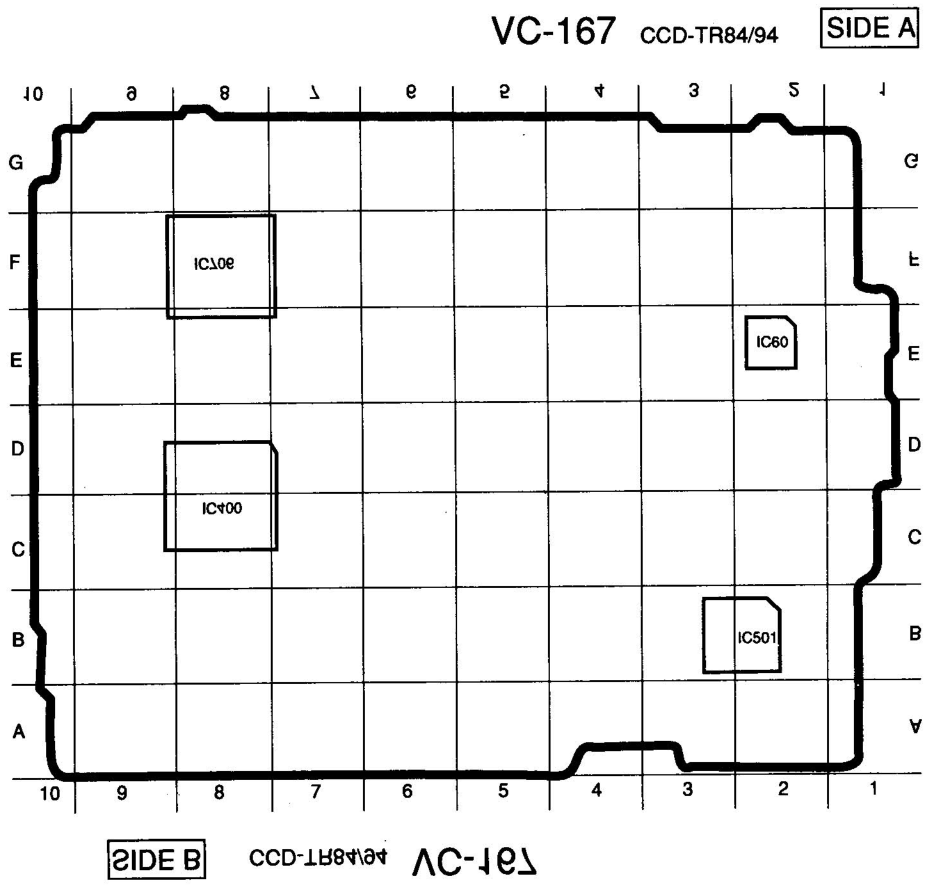
⊞ : WEIGHT OFF MODE
☐ : WEIGHT ON MODE


R-Y
R
MG
YL
B-Y
B
CY
G

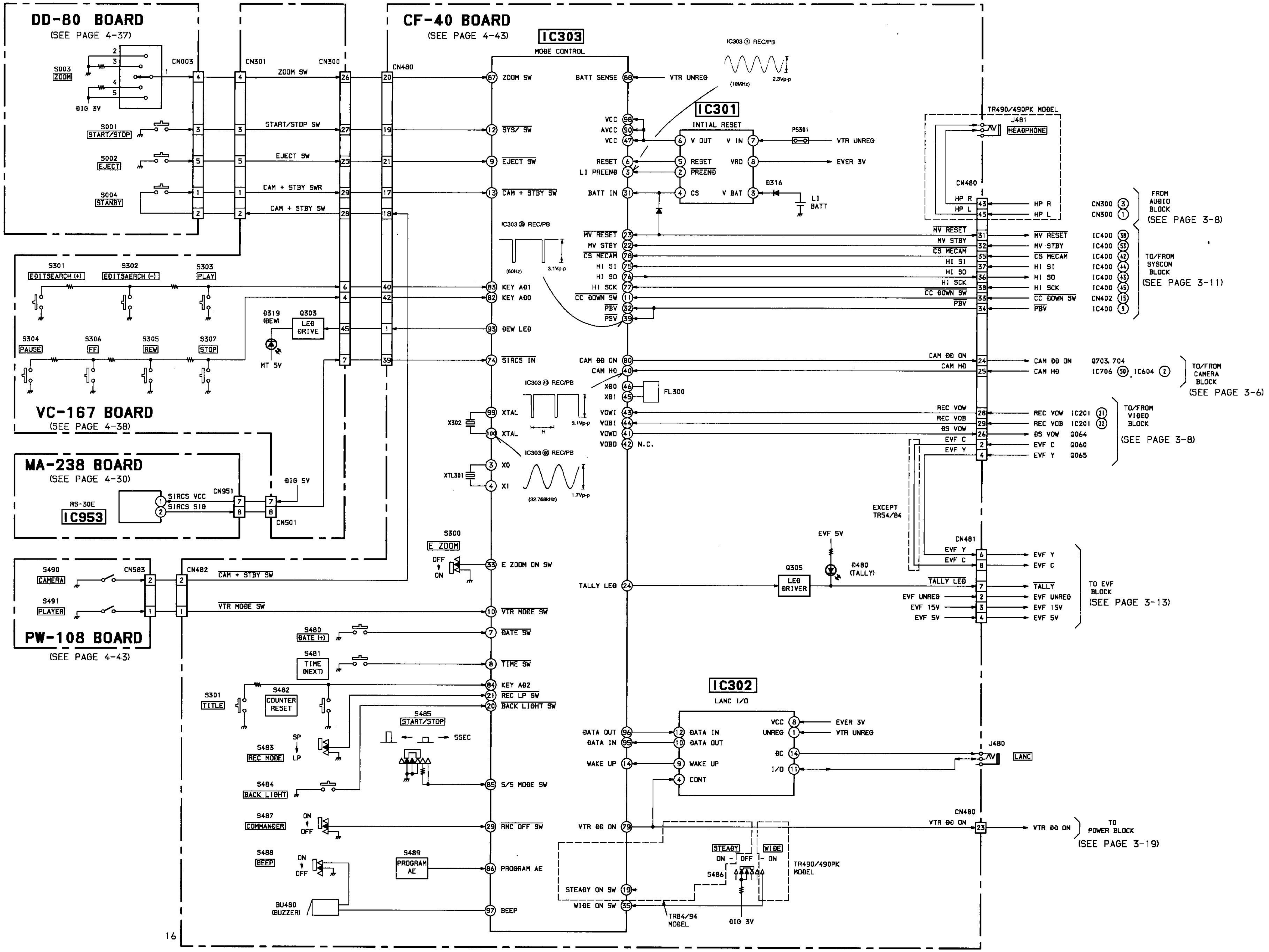
CCD-TR84/94.

〈PARTS REFERENCE SHEET〉

You can find the parts position of mount locations applying to VC-167 board of a set.

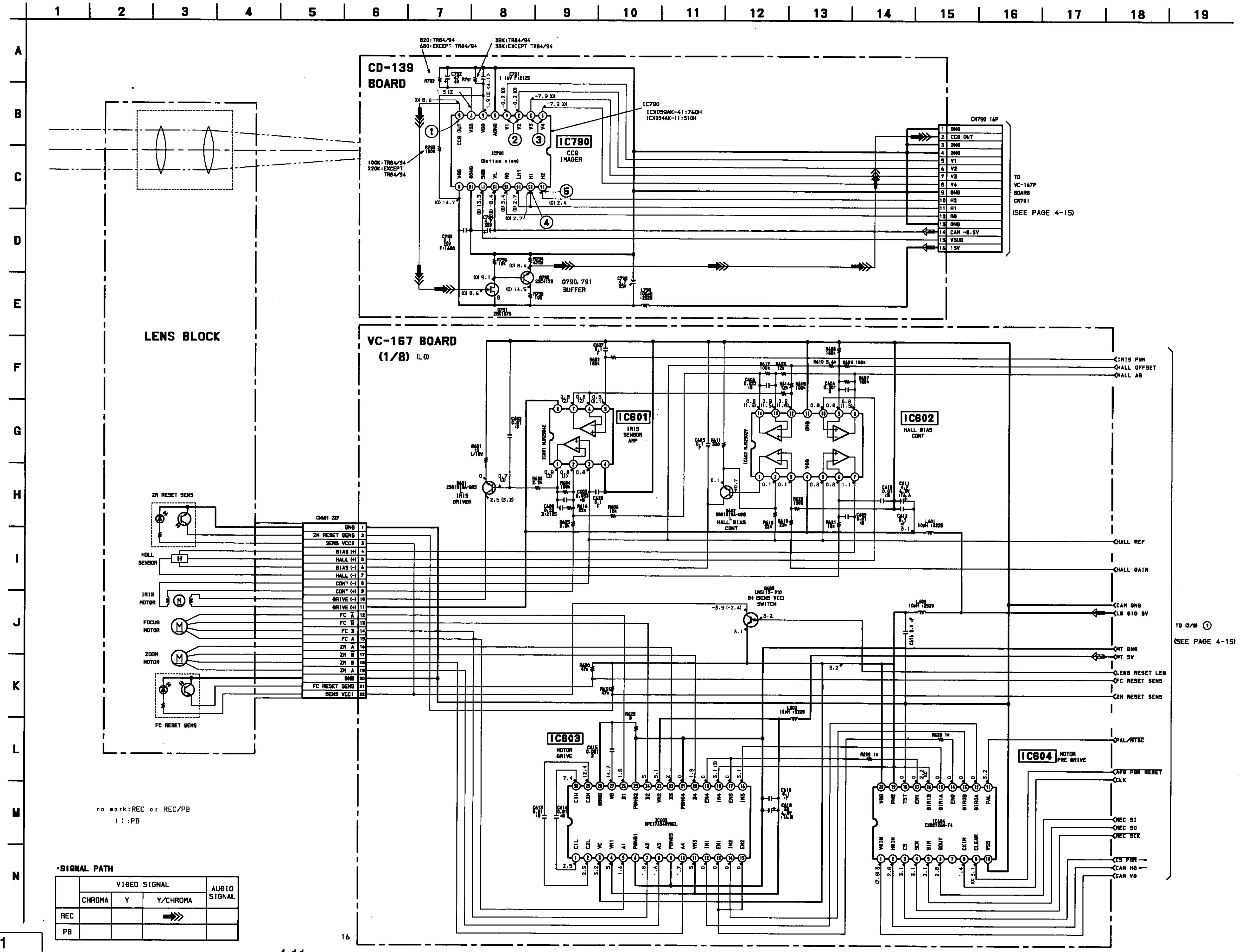

VC-167 CCD-TR84/94 SIDE A
10
9
8
7
6
5
4
3
2
1
G
F
E
D
C
B
A
IC706
IC60
IC400
IC501
SIDE B CCD-TR84/94 VC-167

3-5. MODE CONTROL BLOCK DIAGRAM


DD-80 BOARD
(SEE PAGE 4-37)
S003 ZOOM
CN003
CN301
CN300
ZOOM SW
BIG 3V
S001 START/STOP
START/STOP SW
S002 EJECT
EJECT SW
S004 STANBY
CAM + STBY SWR
CAM + STBY SW
CF-40 BOARD
(SEE PAGE 4-43)
CN480
IC303
MODE CONTROL
ZOOM SW
SYS/ SW
EJECT SW
CAM + STBY SW
BATT SENSE
VTR UNREG
IC303 ③ REC/PB
(10MHz)
2.3Vp-p
IC301
INTIAL RESET
VCC
AVCC
VCC
V OUT
V IN
PS301
VTR UNREG
RESET
RESET
VRD
EVER 3V
LI PREENG
PREENG
BATT IN
CS
V BAT
D316
L1 BATT
TR490/490PK MODEL
J481
HEADPHONE
CN480
HP R
HP L
HP R
HP L
CN300 ③
CN300 ①
FROM AUDIO BLOCK
(SEE PAGE 3-8)
IC303 ㊴ REC/PB
(60Hz)
3.1Vp-p
MV RESET
MV STBY
CS MECAM
HI SI
HI SO
HI SCK
CC DOWN SW
PBV
PBV
IC400
CN402
TO/FROM SYSCON BLOCK
(SEE PAGE 3-11)
VC-167 BOARD
(SEE PAGE 4-38)
S301 EDITSEARCH (+)
S302 EDITSAERCH (-)
S303 PLAY
S304 PAUSE
S306 FF
S305 REW
S307 STOP
D319 (DEW)
Q303 LED DRIVE
MT 5V
KEY AD1
KEY AD0
DEW LED
SIRCS IN
CAM DD ON
CAM HD
CAM DD ON
CAM HD
Q703, 704
IC706 ㊿, IC604 ②
TO/FROM CAMERA BLOCK
(SEE PAGE 3-6)
IC303 ㊺ REC/PB
XD0
XD1
FL300
X302
XTAL
XTAL
3.1Vp-p
H
IC303 ⑳ REC/PB
VOWI
VOBI
VOWO
VOBO
N.C.
REC VOW
REC VOB
DS VOW
EVF C
EVF Y
IC201 ㉑
IC201 ㉒
Q064
Q060
Q065
TO/FROM VIDEO BLOCK
(SEE PAGE 3-8)
XTL301
X0
X1
(32.768kHz)
1.7Vp-p
MA-238 BOARD
(SEE PAGE 4-30)
RS-30E
IC953
SIRCS VCC
SIRCS SIG
CN951
CN501
DIG 5V
EXCEPT TR54/84
S300
E ZOOM
OFF
ON
E ZOOM ON SW
EVF 5V
CN481
EVF Y
EVF C
D480 (TALLY)
Q305 LED DRIVER
TALLY LED
TALLY LED
EVF UNREG
EVF 15V
EVF 5V
TALLY
TO EVF BLOCK
(SEE PAGE 3-13)
S490 CAMERA
CN583
CN482
CAM + STBY SW
S491 PLAYER
VTR MODE SW
PW-108 BOARD
(SEE PAGE 4-43)
VTR MODE SW
S480 DATE (+)
DATE SW
S481 TIME (NEXT)
TIME SW
S301 TITLE
S482 COUNTER RESET
KEY AD2
REC LP SW
BACK LIGHT SW
S485 START/STOP
5SEC
SP
S483 REC MODE
LP
IC302
LANC I/O
VCC
UNREG
EVER 3V
VTR UNREG
DATA OUT
DATA IN
DATA IN
DATA OUT
DC
J480
LANC
WAKE UP
WAKE UP
I/O
CONT
S484 BACK LIGHT
S/S MODE SW
S487 COMMANDER
ON
OFF
RMC OFF SW
VTR DD ON
CN480
VTR DD ON
VTR DD ON
TO POWER BLOCK
(SEE PAGE 3-19)
S488 BEEP
ON
OFF
S489 PROGRAM AE
PROGRAM AE
STEADY
ON - OFF - ON
WIDE
S486
TR490/490PK MODEL
STEADY ON SW
WIDE ON SW
TR84/94 MODEL
DIG 3V
BU480 (BUZZER)
BEEP

VC-167 (CAMERA 1) , CD-139 (CCD IMAGER) PRINTED WIRING BOARD AND SCHEMATIC DIAGRAMS • See page 4-7 for VC-167 BOARD printed wiring board.

— Ref. No. VC-167 Board; 1,000 Series, CD-139 Board; 2,000 Series —


CD-139 BOARD
IC790 CCD IMAGER
IC790 (Bottom view)
IC790 ICX059AK-41:760H ICX054AK-11:510H
820:TR84/94 680:EXCEPT TR84/94
39K:TR84/94 33K:EXCEPT TR84/94
100K:TR84/94 220K:EXCEPT TR84/94
Q790, 791 BUFFER
CN790 16P
GND
CCD OUT
V1
V2
V3
V4
H2
H1
RG
CAM -8.5V
VSUB
15V
TO VC-167P BOARD CN701 (SEE PAGE 4-15)
LENS BLOCK
VC-167 BOARD (1/8)
IC601 IRIS SENSOR AMP
IC602 HALL BIAS CONT
IC603 MOTOR DRIVE
IC604 MOTOR DRIVE
ZM RESET SENS
HALL SENSOR
IRIS MOTOR
FOCUS MOTOR
ZOOM MOTOR
FC RESET SENS
IRIS PWM
HALL OFFSET
HALL AG
HALL REF
HALL GAIN
TO CF/M ① (SEE PAGE 4-15)
no mark:REC or REC/PB
( ):PB

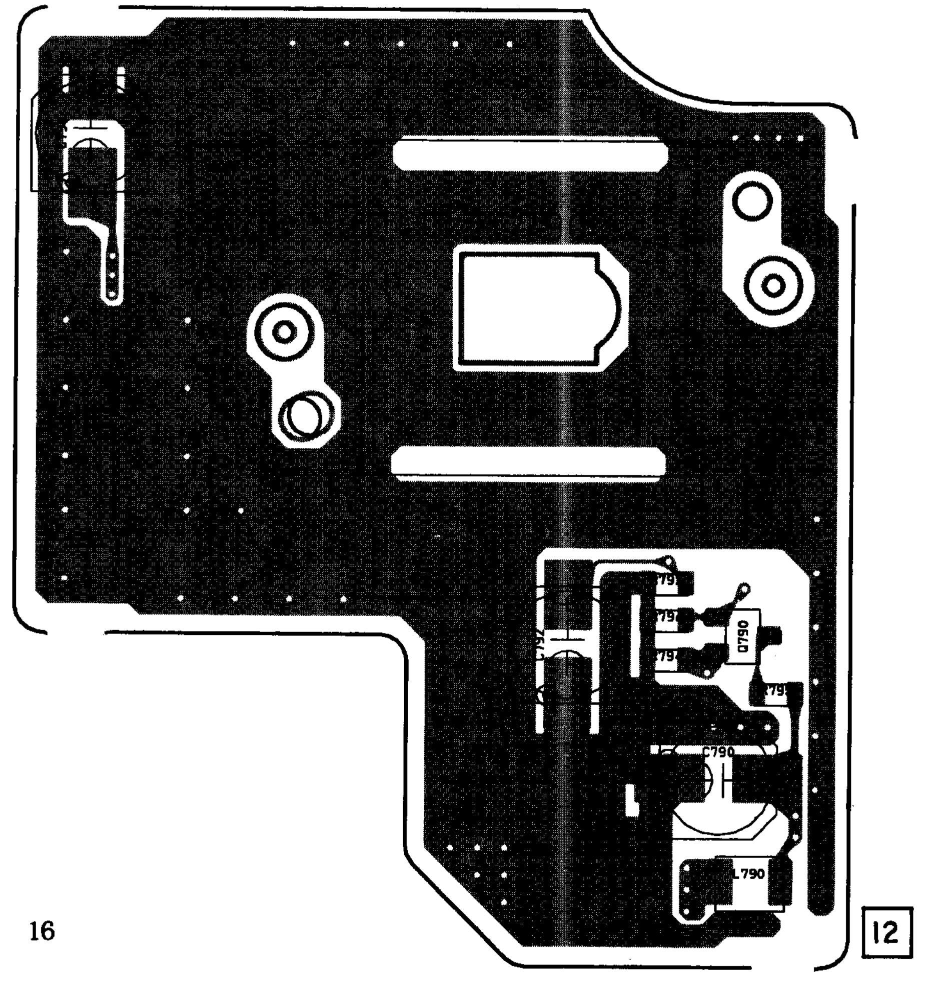
•SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC			➡》	
PB				

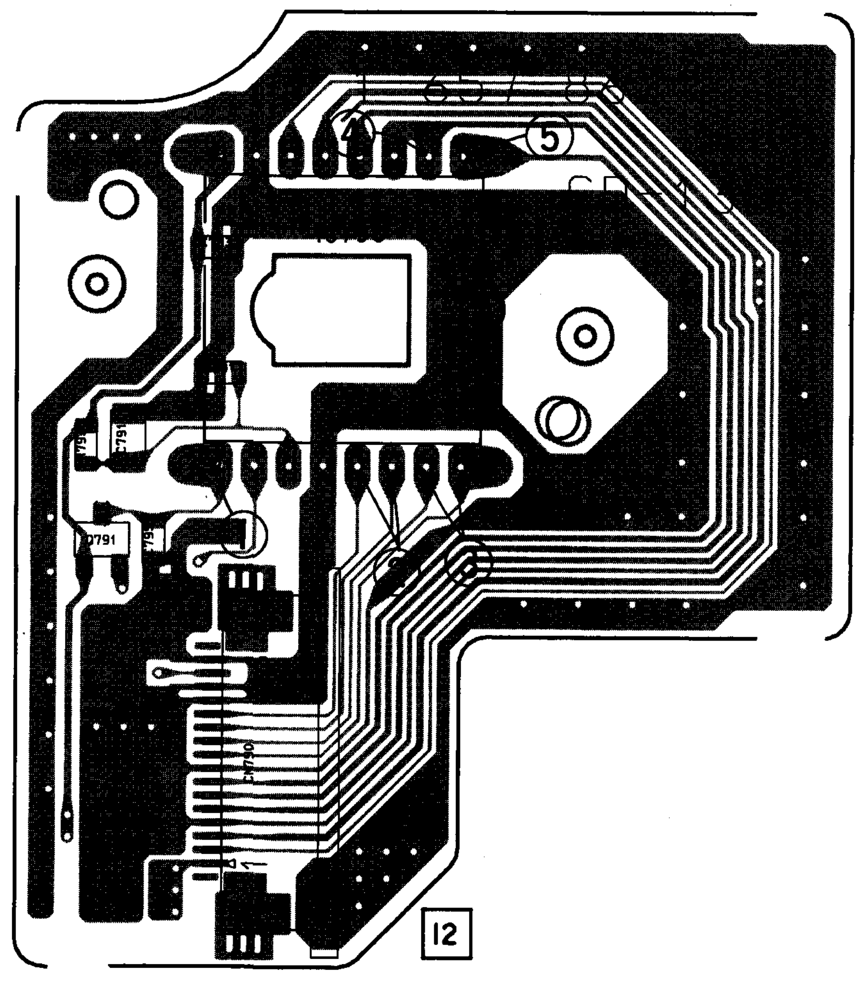
Precautions Upon Replacing CCD Imager

- The CD-139 board mounted as a repair part is not equipped with a CCD imager.
  When replacing this board, remove the CCD imager from the old one and mount it onto the new one.
- If the CCD imager has been replaced, carry out all the adjustments for the camera section.
- As the CCD imager may be damaged by static electricity from its structure, handle it carefully like for the MOS IC. In addition, ensure that the receiver is not covered with dusts nor exposed to strong light.

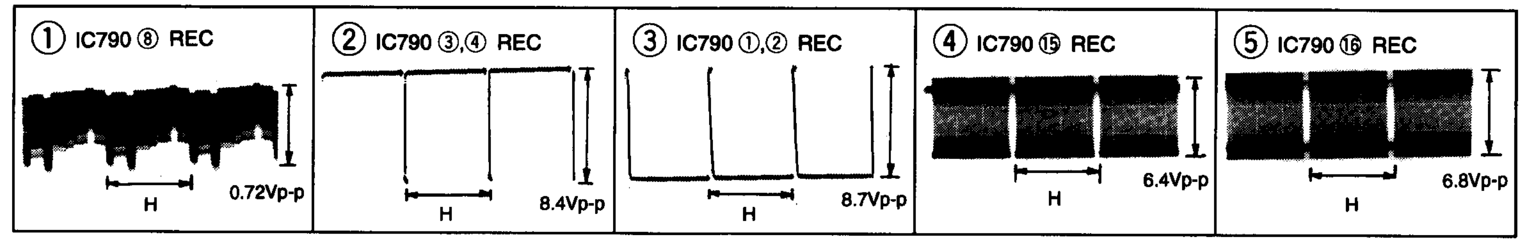
CD-139 BOARD (SIDE A)

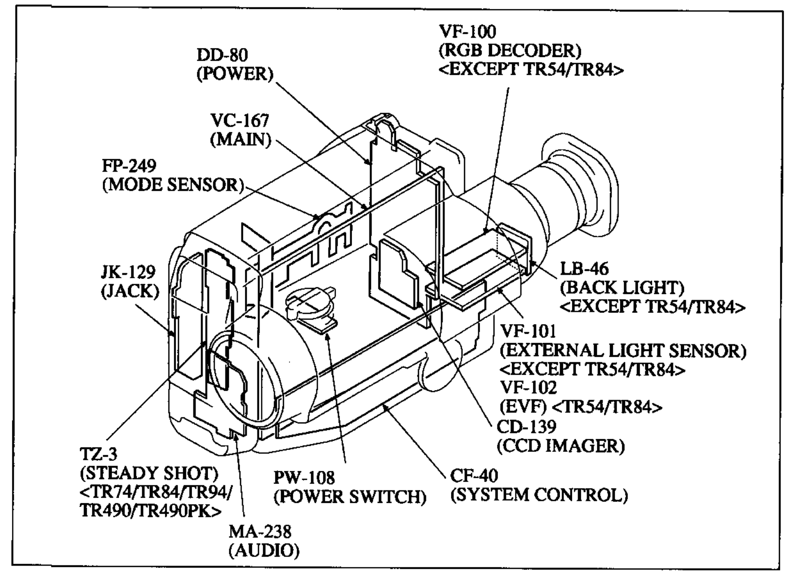


CD-139 BOARD (SIDE B)



CD-139 BOARD

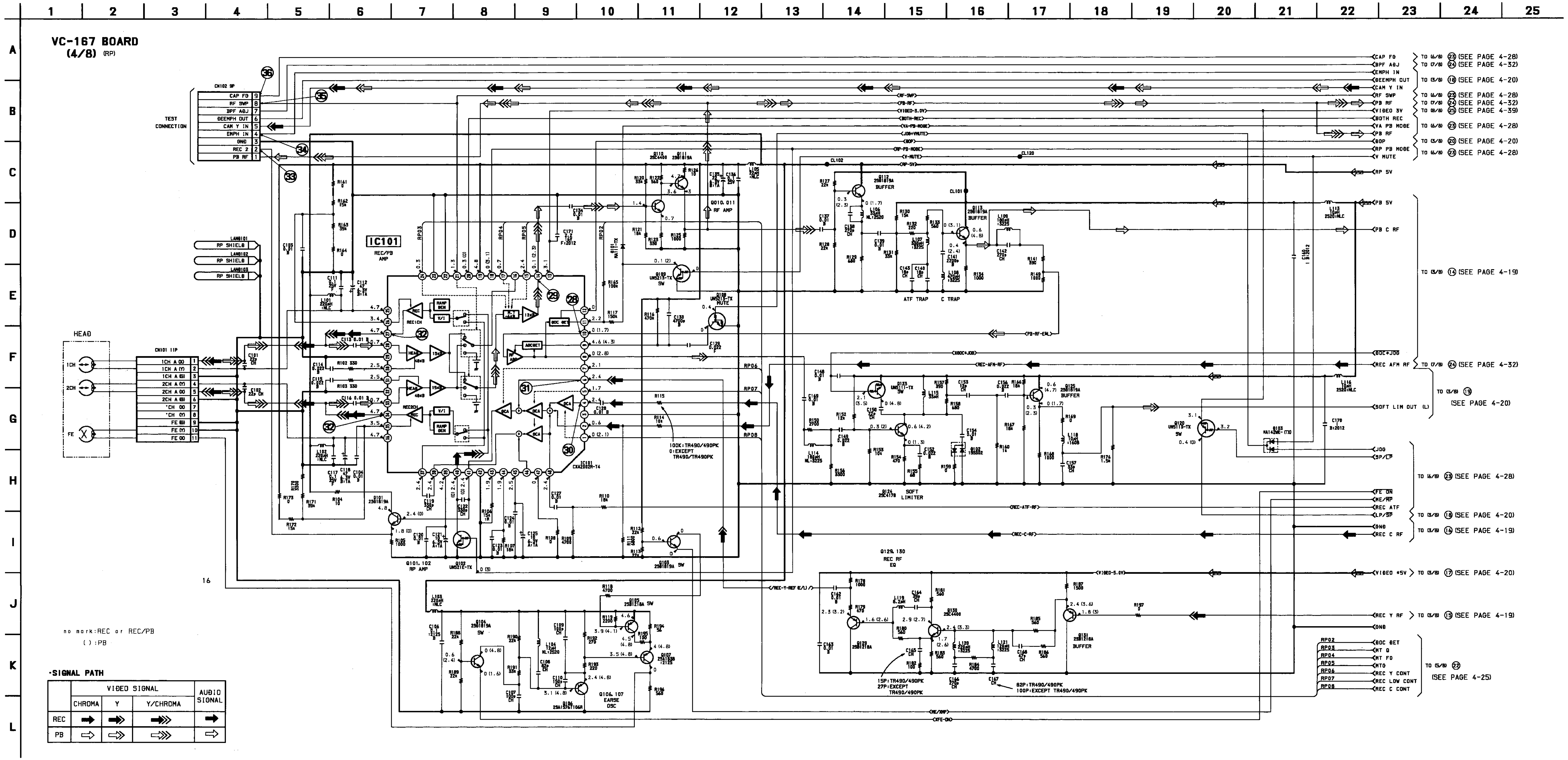



DD-80 (POWER)
VF-100 (RGB DECODER) <EXCEPT TR54/TR84>
VC-167 (MAIN)
FP-249 (MODE SENSOR)
JK-129 (JACK)
LB-46 (BACK LIGHT) <EXCEPT TR54/TR84>
VF-101 (EXTERNAL LIGHT SENSOR) <EXCEPT TR54/TR84>
VF-102 (EVF) <TR54/TR84>
CD-139 (CCD IMAGER)
TZ-3 (STEADY SHOT) <TR74/TR84/TR94/ TR490/TR490PK>
PW-108 (POWER SWITCH)
CF-40 (SYSTEM CONTROL)
MA-238 (AUDIO)

VC-167 (VIDEO 1) SCHEMATIC DIAGRAM

— Ref. No. VC-167 Board; 1,000 Series —

• See page 4-7 for VC-167 BOARD printed wiring board.

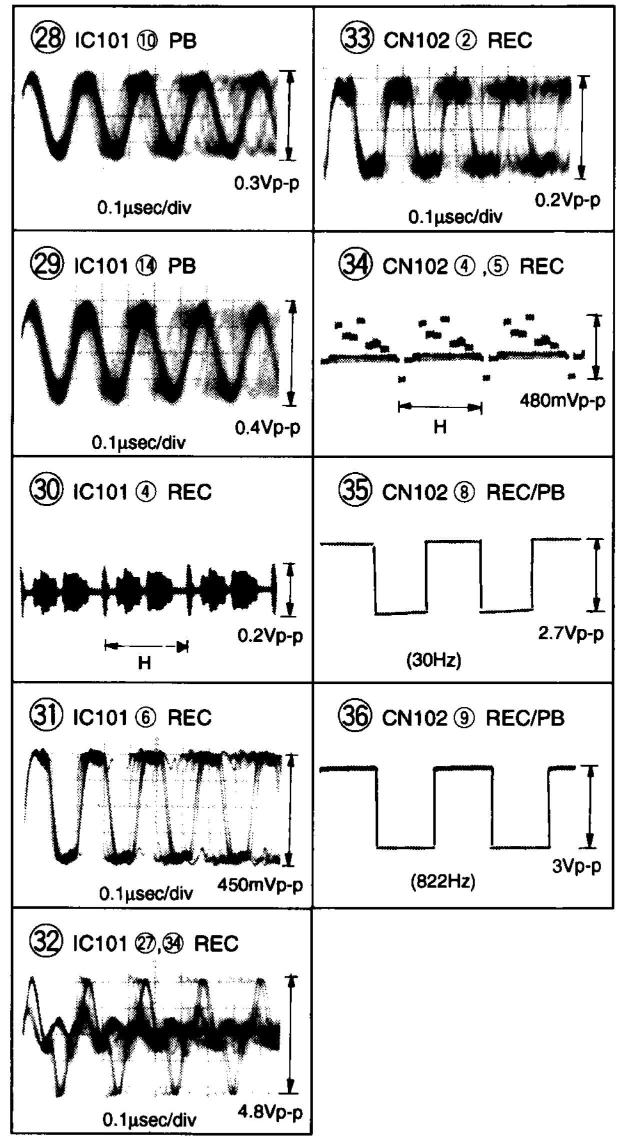

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
A
B
C
D
E
F
G
H
I
J
K
L
VC-167 BOARD
(4/8) (RP)
TEST CONNECTION
CN102 9P
CAP FG 9
RF SWP 8
BPF ADJ 7
DEEMPH OUT 6
CAM Y IN 5
EMPH IN 4
GND 3
REC 2 2
PB RF 1
HEAD
1CH
2CH
FE
CN101 11P
1CH A (X) 1
1CH A (Y) 2
1CH A (G) 3
2CH A (Y) 4
2CH A (X) 5
2CH A (G) 6
*CH (X) 7
*CH (Y) 8
FE (G) 9
FE (Y) 10
FE (X) 11
C101 22p CH
C102 22p CH
RP SHIELD
IC101
REC/PB AMP
IC101 CXA1622M-T4
Q110, 111 RF AMP
BUFFER
ATF TRAP
C TRAP
SOFT LIMITER
Q101, 102 RF AMP
Q129, 130 REC RF EQ
BUFFER
Q106, 107 EARSE OSC
100K:TR490/490PK
0:EXCEPT TR490/TR490PK
15P:TR490/490PK
27P:EXCEPT TR490/490PK
82P:TR490/490PK
100P:EXCEPT TR490/490PK
RP06
RP07
RP08
CAP FG
BPF ADJ
EMPH IN
DEEMPH OUT
CAM Y IN
RF SWP
PB RF
VIDEO 3V
BOTH REC
VA PB MODE
PB RF
DOP
RP PB MODE
V MUTE
TO (6/8) (23) (SEE PAGE 4-28)
TO (7/8) (24) (SEE PAGE 4-32)
TO (3/8) (18) (SEE PAGE 4-20)
TO (6/8) (23) (SEE PAGE 4-28)
TO (7/8) (24) (SEE PAGE 4-32)
TO (8/8) (25) (SEE PAGE 4-39)
TO (6/8) (23) (SEE PAGE 4-28)
TO (3/8) (20) (SEE PAGE 4-20)
TO (6/8) (23) (SEE PAGE 4-28)
RP 5V
PB 5V
PB C RF
TO (3/8) (14) (SEE PAGE 4-19)
DOC*JOG
REC AFM RF
TO (7/8) (24) (SEE PAGE 4-32)
SOFT LIM OUT (L)
TO (3/8) (19) (SEE PAGE 4-20)
C170 B:2012
L116 10μH 2520:NLC
JOG
SP/LP
TO (6/8) (23) (SEE PAGE 4-28)
FE ON
ME/MP
REC ATF
LP/SP
TO (3/8) (18) (SEE PAGE 4-20)
GND
REC C RF
TO (3/8) (16) (SEE PAGE 4-19)
VIDEO *5V
TO (3/8) (17) (SEE PAGE 4-20)
REC Y RF
TO (3/8) (15) (SEE PAGE 4-19)
GND
RP02
RP03
RP04
RP05
RP06
RP07
RP08
DOC DET
MT Q
MT FO
MTG
REC Y CONT
REC LOW CONT
REC C CONT
TO (5/8) (22) (SEE PAGE 4-25)
(28)
(29)
(30)
(31)
(32)
(33)
(34)
(35)
(36)
16

no mark:REC or REC/PB
( ):PB

·SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡≫	➡⋙	➡
PB	⇨	⇨≫	⇨⋙	⇨

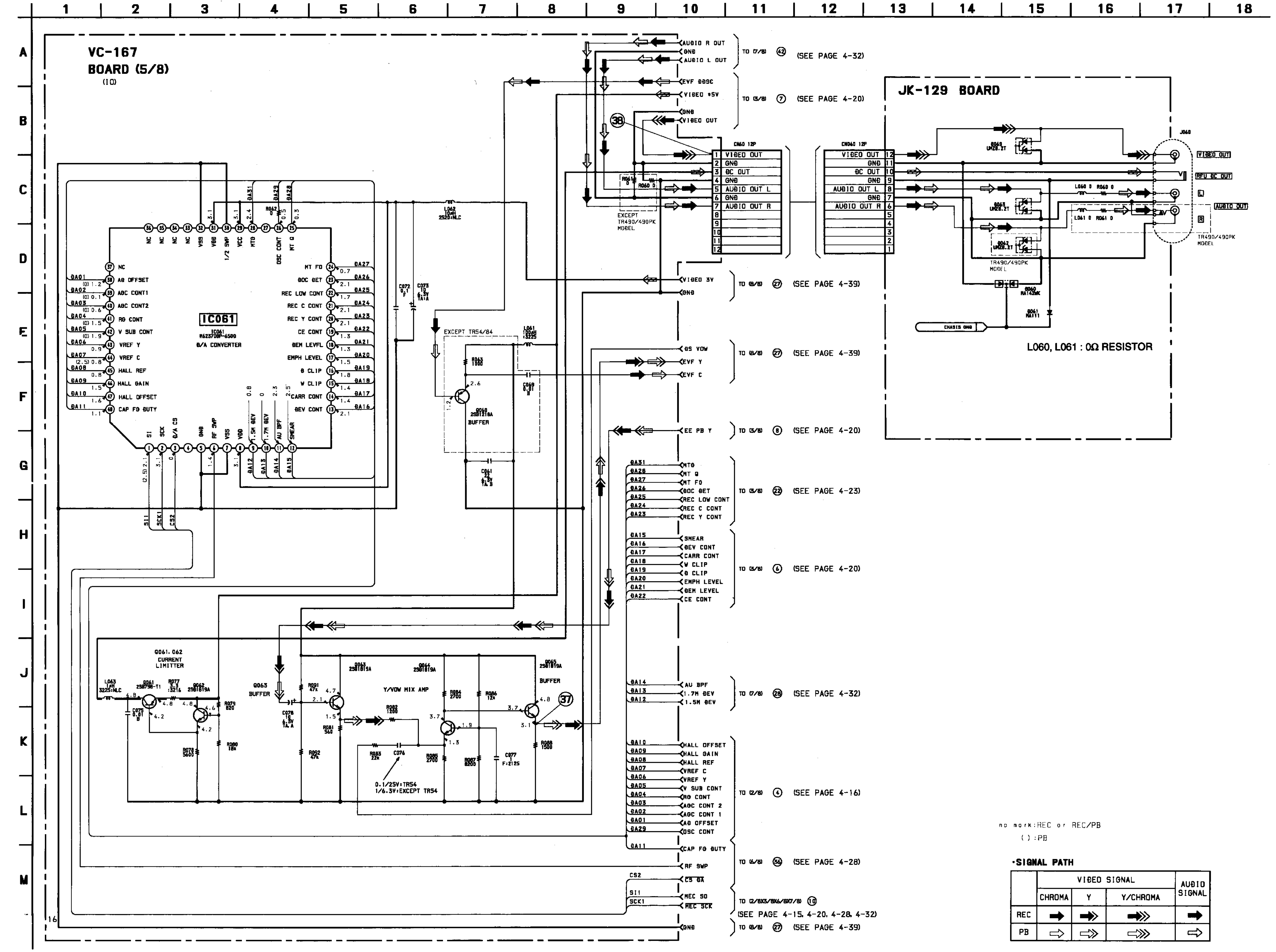
VC-167 BOARD



VC-167 (VIDEO 2) , JK-129 (JACK) PRINTED WIRING BOARD AND SCHEMATIC DIAGRAMS

• See page 4-7 for VC-167 BOARD printed wiring board.

— Ref. No. VC-167 Board; 1,000 Series, JK-129 Board; 2,000 Series —

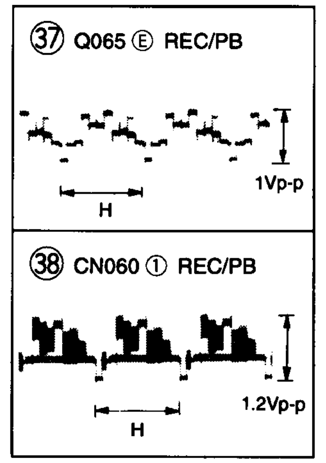

VC-167
BOARD (5/8)
(10)
IC061
D/A CONVERTER
JK-129 BOARD
CN60 12P
CN060 12P
VIDEO OUT
GND
DC OUT
AUDIO OUT L
AUDIO OUT R
J060
VIDEO OUT
RFU DC OUT
AUDIO OUT
EXCEPT TR490/490PK MODEL
TR490/490PK MODEL
CHASIS GND
L060, L061 : 0Ω RESISTOR
AUDIO R OUT
AUDIO L OUT
TO (7/8) (42) (SEE PAGE 4-32)
EVF DDSC
VIDEO +5V
TO (3/8) (7) (SEE PAGE 4-20)
VIDEO 3V
TO (8/8) (27) (SEE PAGE 4-39)
DS VDW
EVF Y
EVF C
TO (8/8) (27) (SEE PAGE 4-39)
EE PB Y
TO (3/8) (8) (SEE PAGE 4-20)
MTG
MT Q
MT FO
DOC DET
REC LOW CONT
REC C CONT
REC Y CONT
TO (3/8) (22) (SEE PAGE 4-23)
SMEAR
DEV CONT
CARR CONT
W CLIP
D CLIP
EMPH LEVEL
DEM LEVEL
CE CONT
TO (3/8) (6) (SEE PAGE 4-20)
AU BPF
1.7M DEV
1.5M DEV
TO (7/8) (28) (SEE PAGE 4-32)
HALL OFFSET
HALL GAIN
HALL REF
VREF C
VREF Y
V SUB CONT
RG CONT
AGC CONT 2
AGC CONT 1
AD OFFSET
OSC CONT
TO (2/8) (4) (SEE PAGE 4-16)
CAP FG DUTY
RF SWP
CS DA
TO (6/8) (36) (SEE PAGE 4-28)
MEC SO
MEC SCK
TO (2/8)(3/8)(6/8)(7/8) (10)
(SEE PAGE 4-15, 4-20, 4-28, 4-32)
GND
TO (8/8) (27) (SEE PAGE 4-39)
Q061, 062 CURRENT LIMITTER
Y/VDW MIX AMP
BUFFER
0.1/25V:TR54
1/6.3V:EXCEPT TR54
EXCEPT TR54/84
(37)
(38)

no mark:REC or REC/PB
( ) :PB

·SIGNAL PATH

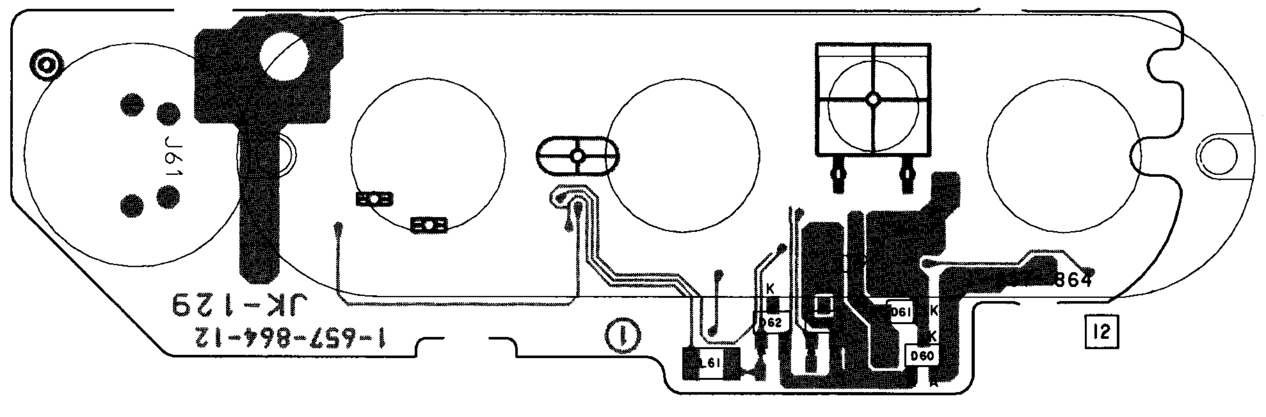
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡»	➡⋙	➡
PB	⇨	⇨»	⇨⋙	⇨

VC-167 BOARD



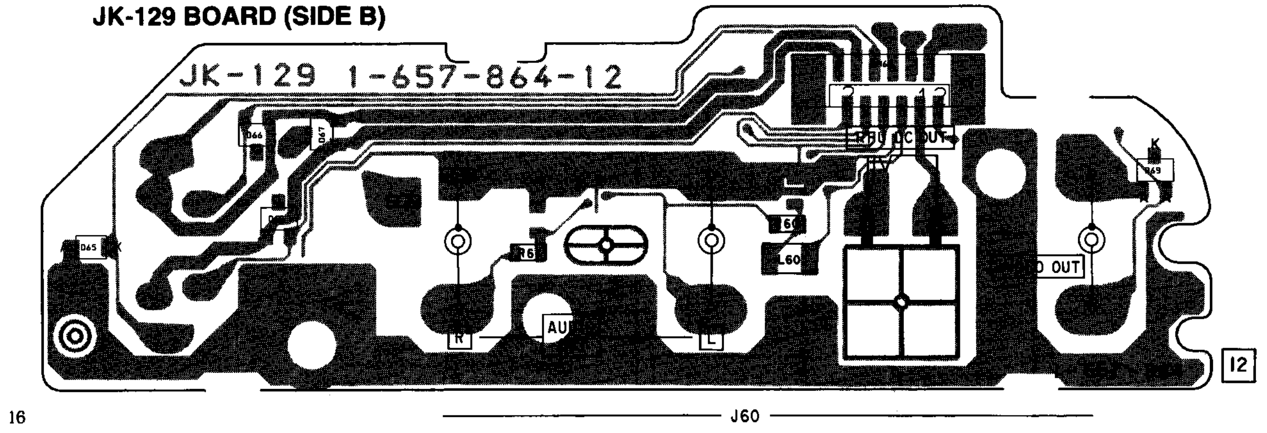
There are few cases that the part printed on this diagram isn't mounted in this model.

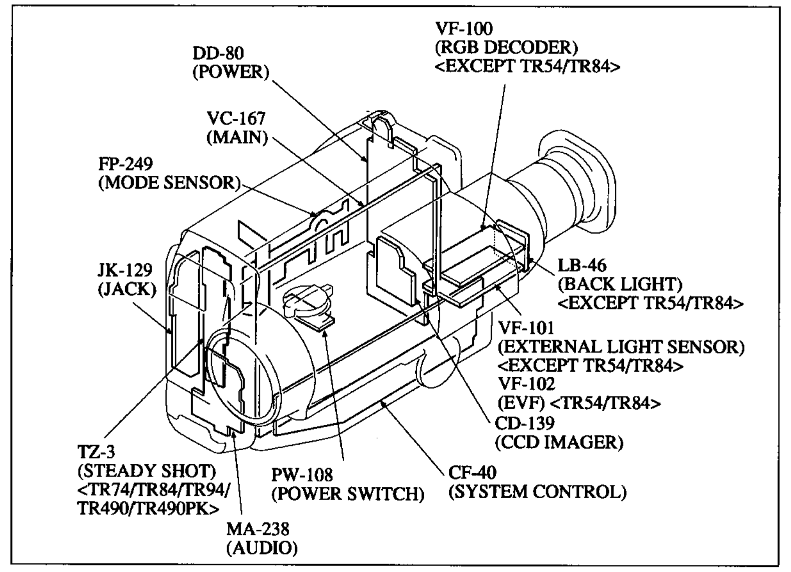
JK-129 BOARD (SIDE A)


JK-129
1-657-864-12
J61
D61
D60
D62
L61
I2

L60, L61 : 0Ω RESISTOR

JK-129 BOARD (SIDE B)

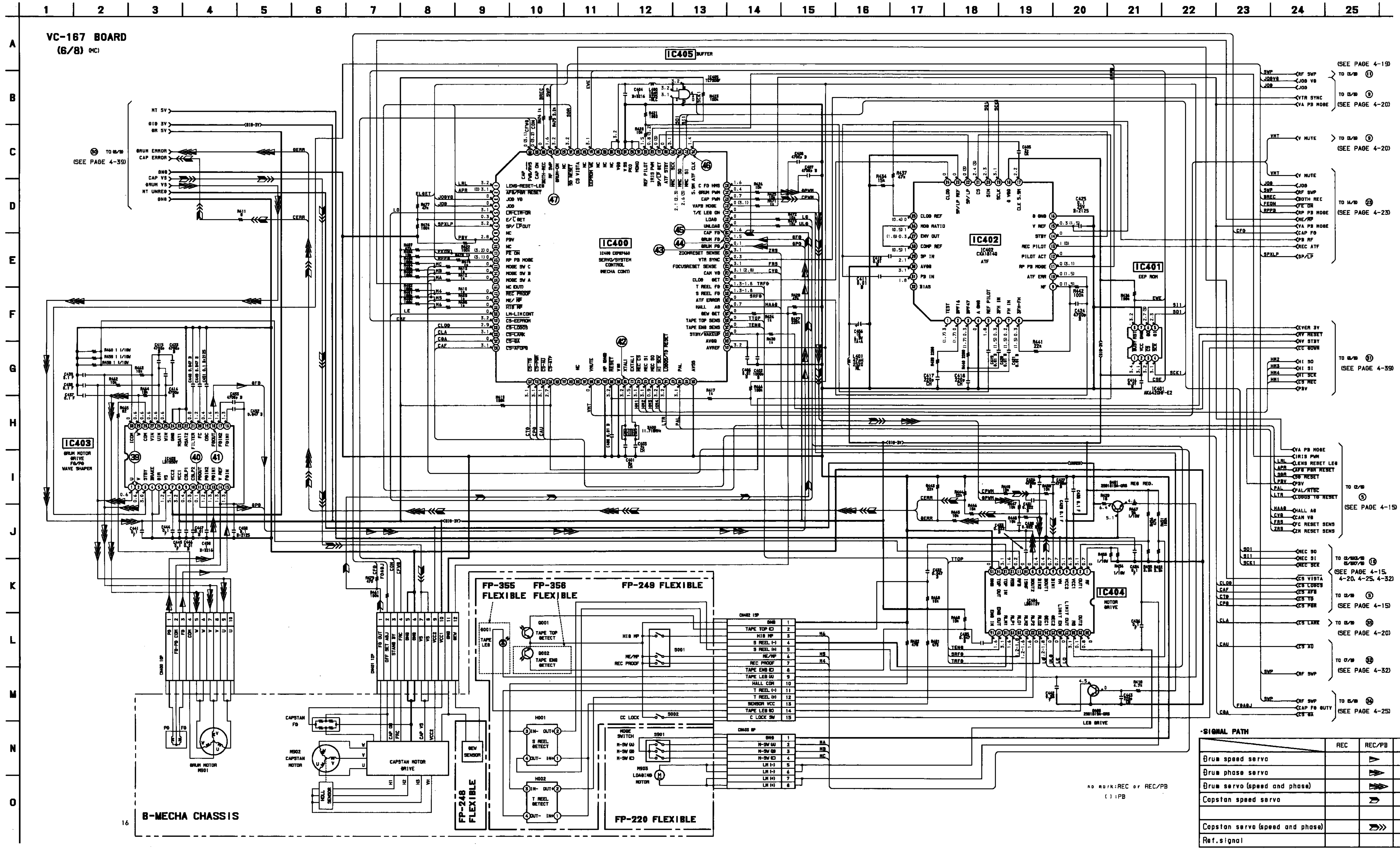

JK-129 1-657-864-12
L60
L61
OUT
AU
R
L
I2
16
J60


DD-80
(POWER)
VF-100
(RGB DECODER)
<EXCEPT TR54/TR84>
VC-167
(MAIN)
FP-249
(MODE SENSOR)
JK-129
(JACK)
LB-46
(BACK LIGHT)
<EXCEPT TR54/TR84>
VF-101
(EXTERNAL LIGHT SENSOR)
<EXCEPT TR54/TR84>
VF-102
(EVF) <TR54/TR84>
CD-139
(CCD IMAGER)
TZ-3
(STEADY SHOT)
<TR74/TR84/TR94/
TR490/TR490PK>
PW-108
(POWER SWITCH)
CF-40
(SYSTEM CONTROL)
MA-238
(AUDIO)

VC-167 (MODE CONTROL), FP-249 (MODE SENSOR) PRINTED WIRING BOARD AND SCHEMATIC DIAGRAMS

• See page 4-7 for VC-167 BOARD printed wiring board.

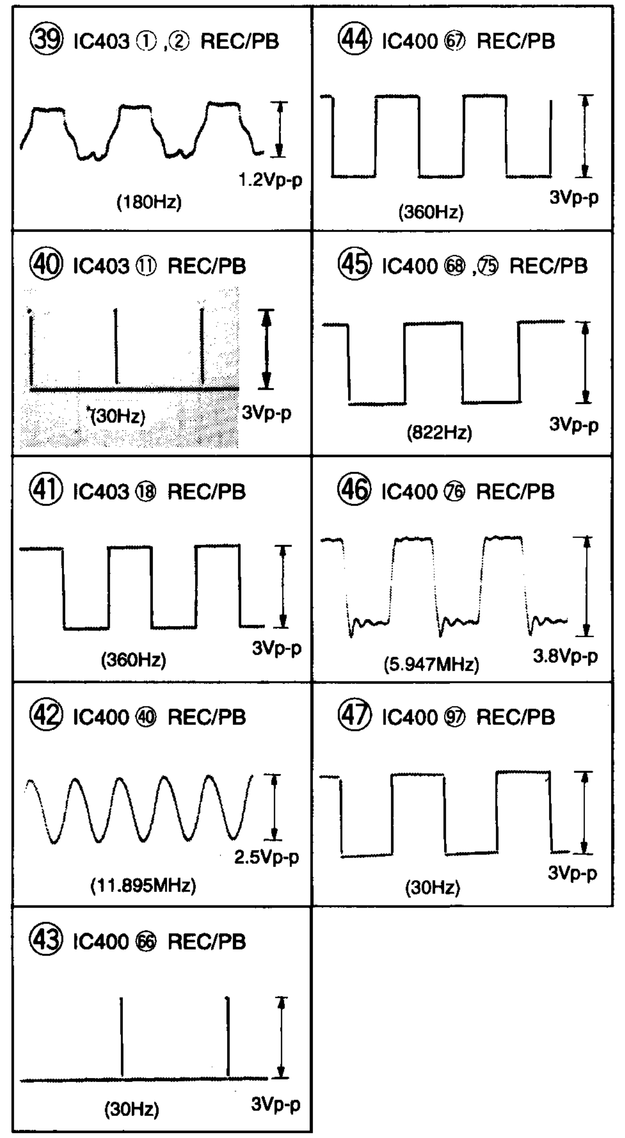
— Ref. No. VC-167 Board; 1,000 Series, FP-249 Board; 5,000 Series —

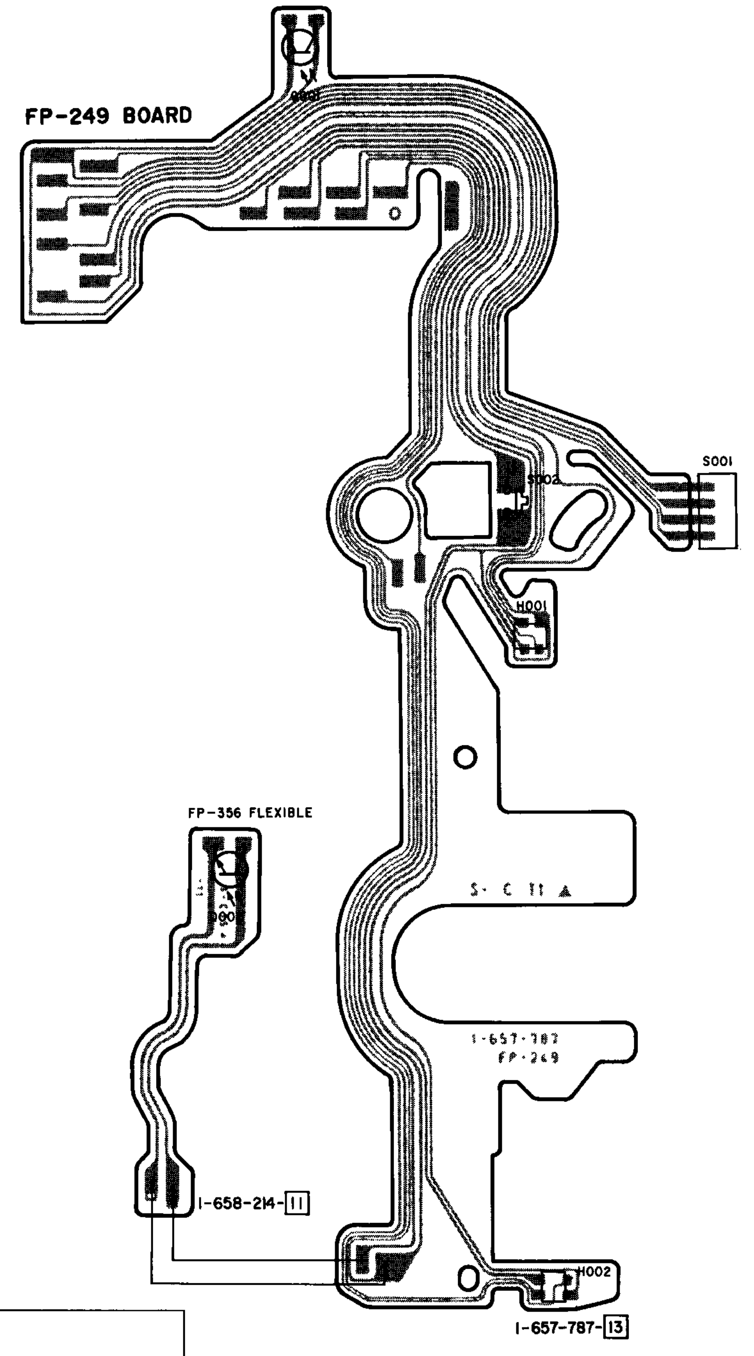

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
VC-167 BOARD
(6/8)
IC405 BUFFER
IC400
IC400 CXP80764
SERVO/SYSTEM CONTROL
MECHA CONT
IC402
ATF
IC401
EEP ROM
IC403
DRUM MOTOR DRIVE
FG/PG WAVE SHAPER
IC404
MOTOR DRIVE
(SEE PAGE 4-15)
(SEE PAGE 4-20)
(SEE PAGE 4-23)
(SEE PAGE 4-35)
(SEE PAGE 4-32)
(SEE PAGE 4-25)
TO 5/8
FP-355 FLEXIBLE
FP-356 FLEXIBLE
FP-249 FLEXIBLE
TAPE TOP DETECT
TAPE END DETECT
S001
S REEL DETECT
T REEL DETECT
MODE SWITCH
LOADING MOTOR
FP-220 FLEXIBLE
FP-248 FLEXIBLE
DRUM MOTOR
CAPSTAN MOTOR
CAPSTAN MOTOR DRIVE
HALL SENSOR
DEW SENSOR
B-MECHA CHASSIS
LED DRIVE
AB MARK: REC or REC/PB
( ) : PB

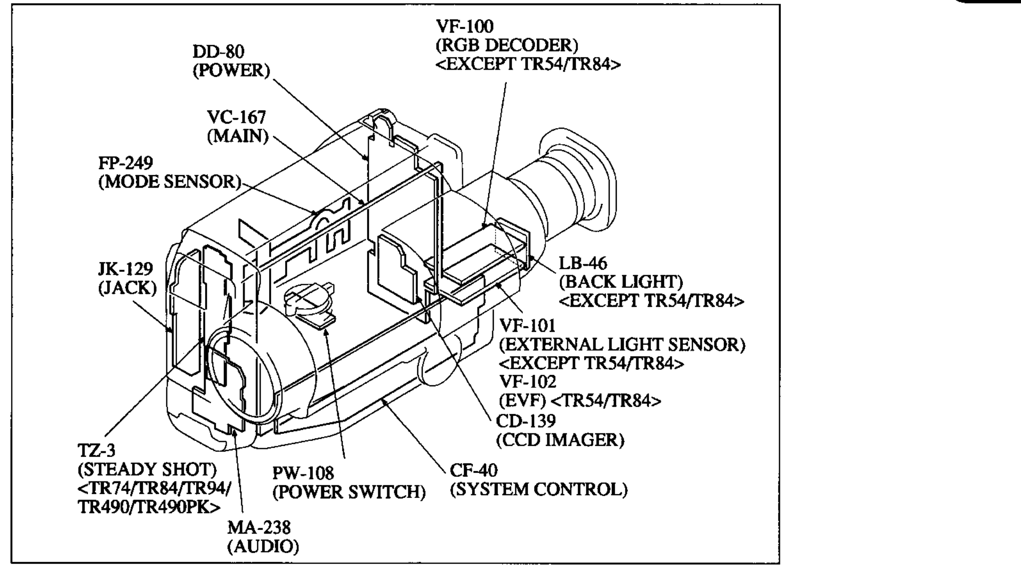
·SIGNAL PATH

	REC	REC/PB	PB
Drum speed servo		▷	
Drum phase servo		▷▷	
Drum servo (speed and phase)		▷▷▷	
Capstan speed servo		➢	
Capstan servo (speed and phase)		➢»	
Ref.signal			

VC-167 BOARD



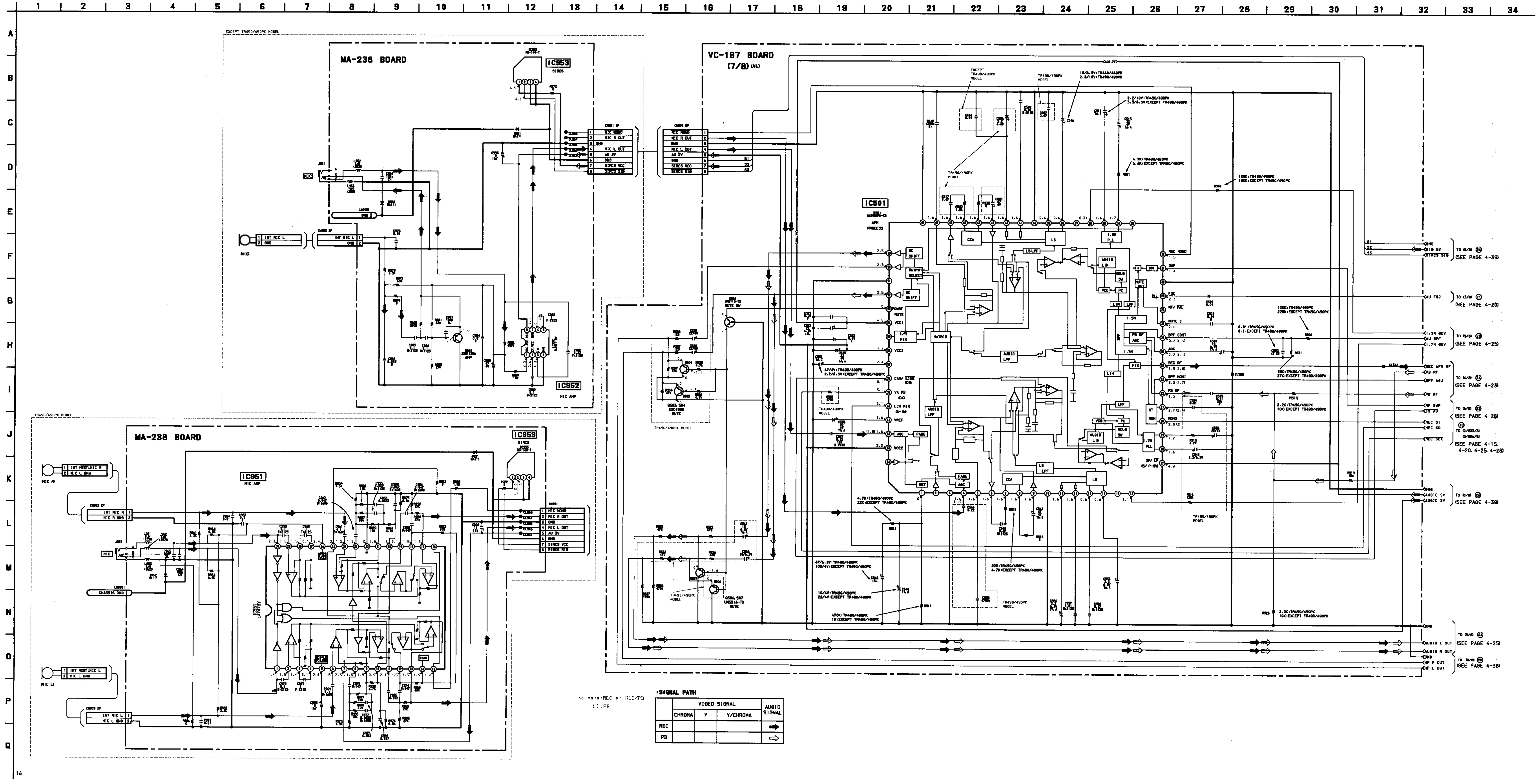

FP-249 BOARD
S001
H001
H002
FP-356 FLEXIBLE
S-C 11 ▲
1-657-787
FP-249
1-658-214-11
1-657-787-13


DD-80
(POWER)
VC-167
(MAIN)
FP-249
(MODE SENSOR)
JK-129
(JACK)
TZ-3
(STEADY SHOT)
<TR74/TR84/TR94/
TR490/TR490PK>
MA-238
(AUDIO)
PW-108
(POWER SWITCH)
CF-40
(SYSTEM CONTROL)
VF-100
(RGB DECODER)
<EXCEPT TR54/TR84>
LB-46
(BACK LIGHT)
<EXCEPT TR54/TR84>
VF-101
(EXTERNAL LIGHT SENSOR)
<EXCEPT TR54/TR84>
VF-102
(EVF) <TR54/TR84>
CD-139
(CCD IMAGER)

VC-167 (AUDIO AMP), MA-238 (AUDIO) SCHEMATIC DIAGRAMS

— Ref. No. VC-167 Board; 1,000 Series, MA-238 Board; 2,000 Series —

- See page 4-7 for VC-167 BOARD printed wiring board.


EXCEPT TR490/490PK MODEL
MA-238 BOARD
IC953
IC952
MIC AMP
TR490/490PK MODEL
MA-238 BOARD
IC953
IC951
MIC AMP
VC-167 BOARD (7/8)
IC501
GND
SIO 5V
SIRCS STB
TO (8/8) 24
(SEE PAGE 4-39)
AU FSC
TO (3/8) 21
(SEE PAGE 4-20)
1.5M DEV
AU BPF
1.7M DEV
TO (5/8) 28
(SEE PAGE 4-25)
REC AFM RF
PB RF
BPF ADJ
PB RF
TO (4/8) 24
(SEE PAGE 4-23)
RF SWP
CS AU
REC SI
REC SO
REC SCK
TO (6/8) 32
(SEE PAGE 4-28)
10
TO (2/8)(3/8) (5/8)(6/8)
(SEE PAGE 4-15, 4-20, 4-25, 4-28)
GND
AUDIO 5V
AUDIO 3V
TO (8/8) 24
(SEE PAGE 4-39)
GND
AUDIO L OUT
AUDIO R OUT
TO (5/8) 42
(SEE PAGE 4-25)
GND
HP R OUT
HP L OUT
TO (8/8) 28
(SEE PAGE 4-38)

no mark:REC or REC/PB
( ):PB

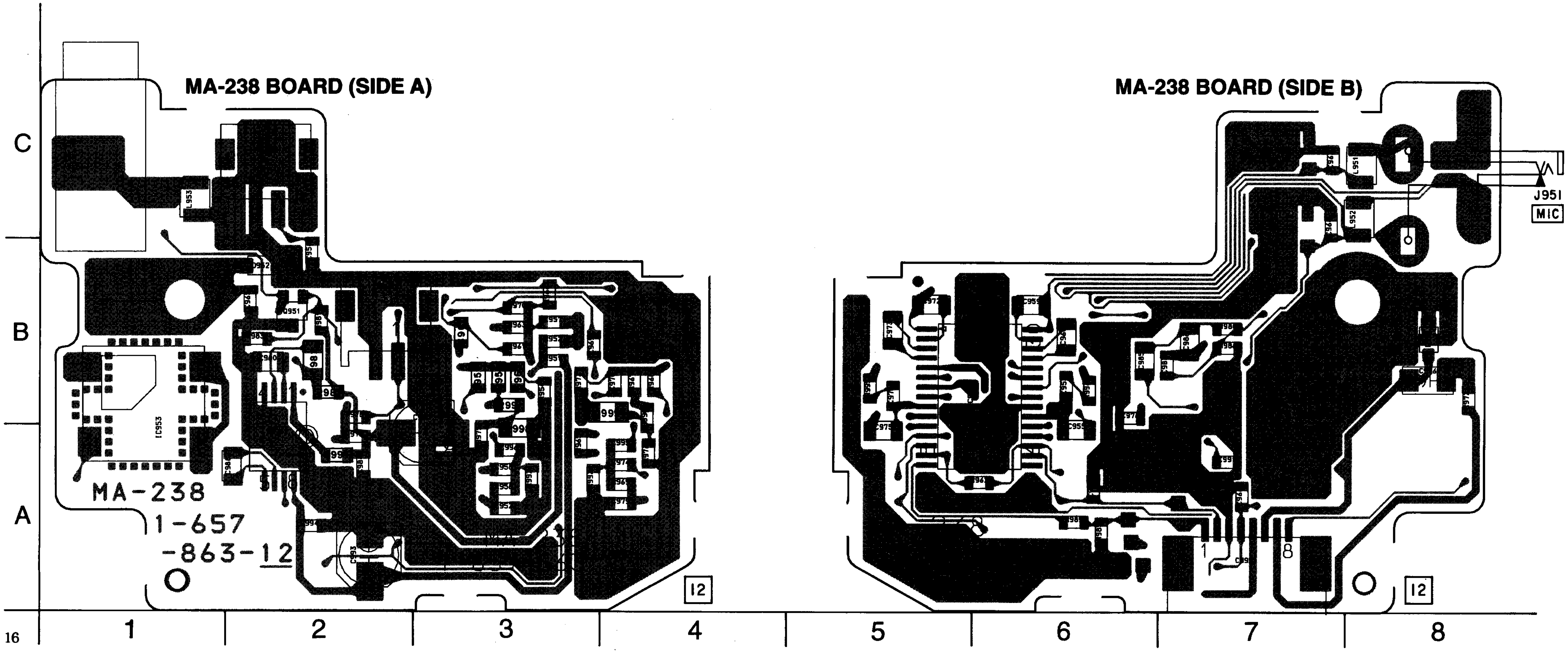
•SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC				➡
PB				⇨

MA-238 (AUDIO) PRINTED WIRING BOARD

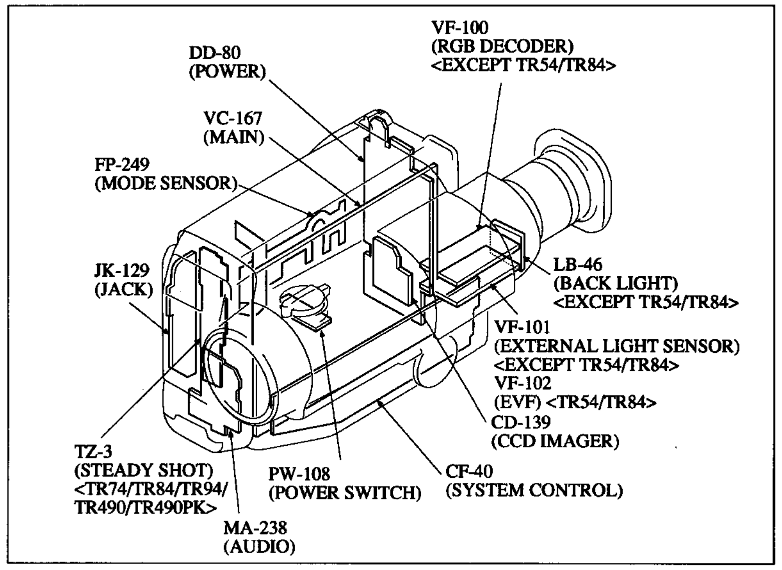
— Ref. No. MA-238 Board; 2,000 Series —

There are few cases that the part printed on this diagram isn't mounted in this model.


MA-238 BOARD (SIDE A)
MA-238 BOARD (SIDE B)
C
B
A
16
1
2
3
4
5
6
7
8
MA-238
1-657
-863-12
IC953
L953
Q951
J951
MIC
L951
L952
12
12

MA-238 BOARD

C953	B-6	C978	B-6	D951	B-8	R959	B-3	R983	B-2
C953	B-6	C980	B-2	D952	B-2	R961	B-1	R986	B-7
C954	B-2	C982	B-2			R962	A-6	R989	A-6
C955	B-6	C983	B-7	IC951	B-5	R963	B-1	R990	B-4
C957	B-3	C984	A-2	IC952	A-2	R964	B-1	R991	B-3
C958	A-3	C985	B-6	IC953	B-1	R965	A-3	R992	A-3
C959	B-6	C988	A-2			R967	B-4	R993	A-3
C960	B-6	C990	B-3	J951	C-1	R968	B-4	R995	B-5
C961	B-3	C991	A-7	L951	C-8	R969	A-4	R996	B-6
C962	B-3	C993	A-2	L952	C-8	R970	B-1	R997	A-2
C963	C-7	C995	C-4	L953	C-1	R972	B-8		
C964	C-7	C996	A-3			R973	B-3		
C969	B-3	C998	A-3	Q951	B-2	R975	A-3		
C970	B-4	C999	B-4			R976	A-4		
C972	B-5			R952	B-3	R978	B-2		
C973	B-5	CN951	A-7	R954	B-3	R979	A-2		
C974	C-4	CN952	C-2	R957	B-3	R980	B-7		
C975	A-5	CN953	B-2	R957	B-3	R981	B-2		
C977	B-5			R958	A-3	R982	A-2		


VF-100
(RGB DECODER)
<EXCEPT TR54/TR84>
DD-80
(POWER)
VC-167
(MAIN)
FP-249
(MODE SENSOR)
JK-129
(JACK)
LB-46
(BACK LIGHT)
<EXCEPT TR54/TR84>
VF-101
(EXTERNAL LIGHT SENSOR)
<EXCEPT TR54/TR84>
VF-102
(EVF) <TR54/TR84>
CD-139
(CCD IMAGER)
TZ-3
(STEADY SHOT)
<TR74/TR84/TR94/
TR490/TR490PK>
PW-108
(POWER SWITCH)
CF-40
(SYSTEM CONTROL)
MA-238
(AUDIO)

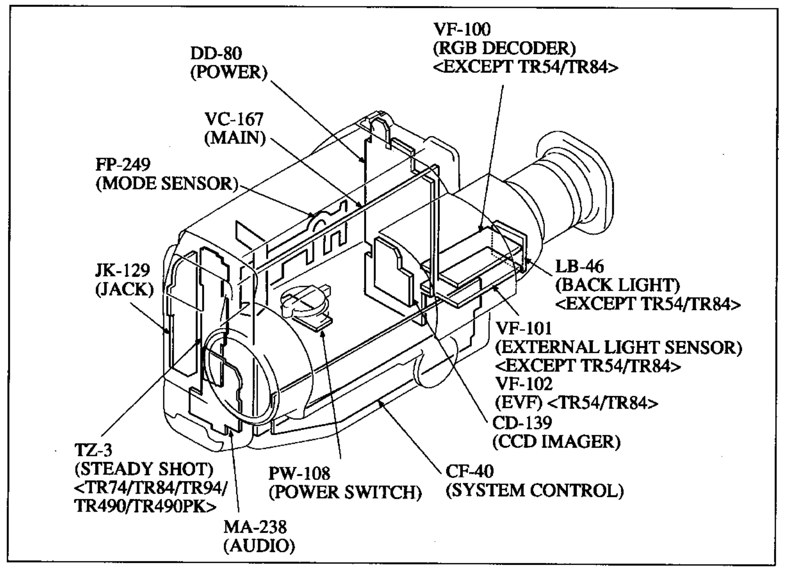
DD-80 (POWER) PRINTED WIRING BOARD

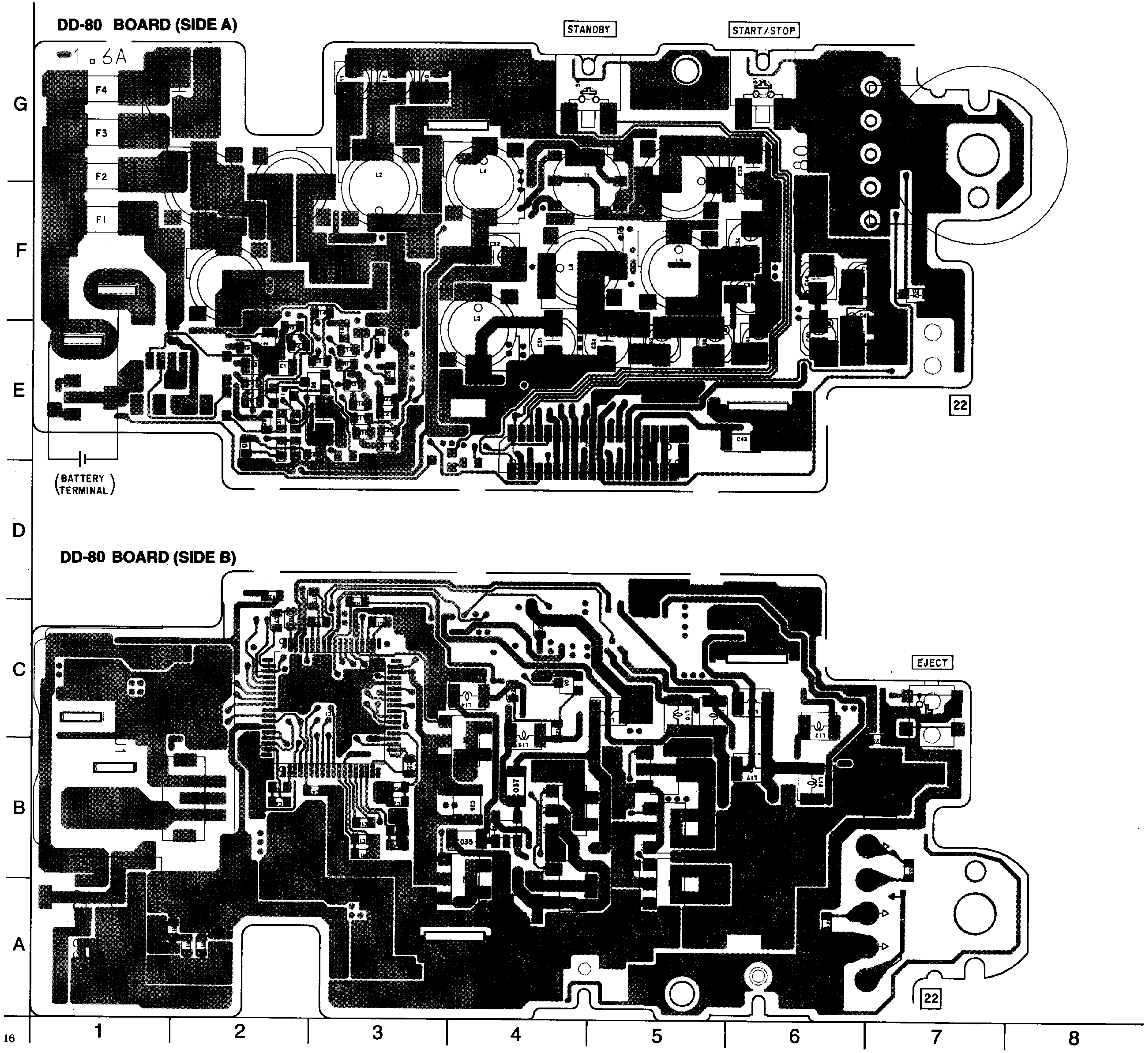
— Ref. No. DD-80 Board; 1,000 Series —

There are few cases that the part printed on this diagram isn't mounted in this model.

DD-80 BOARD

C001	E-2	C045	F-6	Q004	B-4
C002	E-2	C046	F-6	Q005	B-4
C003	E-2	C047	B-3	Q006	B-4
C004	E-2	C048	E-3	Q007	B-5
C005	E-2			Q008	C-4
C006	B-2	CN003	E-5		
C007	C-2			R001	E-3
C008	E-3	D001	B-4	R002	E-2
C009	C-3	D002	F-7	R003	E-3
C010	G-3			R004	B-2
C011	G-3	IC001	C-3	R005	E-2
C012	G-3			R006	E-2
C013	G-1	J001	B-1	R007	E-2
C014	E-3			R008	C-2
C016	E-3	L001	G-2	R009	E-2
C018	B-3	L002	G-3	R010	E-2
C019	C-3	L003	F-2	R014	F-3
C022	B-3	L004	F-2	R015	D-3
C023	E-3	L005	F-4	R016	E-3
C024	E-3	L006	G-4	R017	B-3
C025	E-3	L007	G-5	R018	E-3
C026	B-3	L008	F-4	R019	E-3
C027	E-3	L009	F-5	R020	B-3
C028	B-4	L010	C-5	R021	B-3
C029	B-5	L011	C-5	R022	E-3
C030	A-4	L012	C-6	R023	C-7
C031	E-4	L013	C-6	R024	C-4
C032	F-4	L014	C-4	R025	C-4
C033	G-6	L015	B-4	R026	C-4
C034	E-5	L016	C-5	R027	A-6
C035	B-4	L017	B-6	R033	B-7
C036	F-6	L018	B-6		
C037	B-4			S001	G-6
C038	E-5	F002	G-1	S002	C-7
C039	F-6	F003	G-1	S004	G-4
C040	E-6	F004	G-1		
C041	E-6			T001	G-4
C042	E-5	Q001	B-5		
C043	E-6	Q002	A-5		
C044	F-6	Q003	A-4		


DD-80
(POWER)
VF-100
(RGB DECODER)
<EXCEPT TR54/TR84>
VC-167
(MAIN)
FP-249
(MODE SENSOR)
JK-129
(JACK)
LB-46
(BACK LIGHT)
<EXCEPT TR54/TR84>
VF-101
(EXTERNAL LIGHT SENSOR)
<EXCEPT TR54/TR84>
VF-102
(EVF) <TR54/TR84>
CD-139
(CCD IMAGER)
TZ-3
(STEADY SHOT)
<TR74/TR84/TR94/
TR490/TR490PK>
PW-108
(POWER SWITCH)
CF-40
(SYSTEM CONTROL)
MA-238
(AUDIO)


DD-80 BOARD (SIDE A)

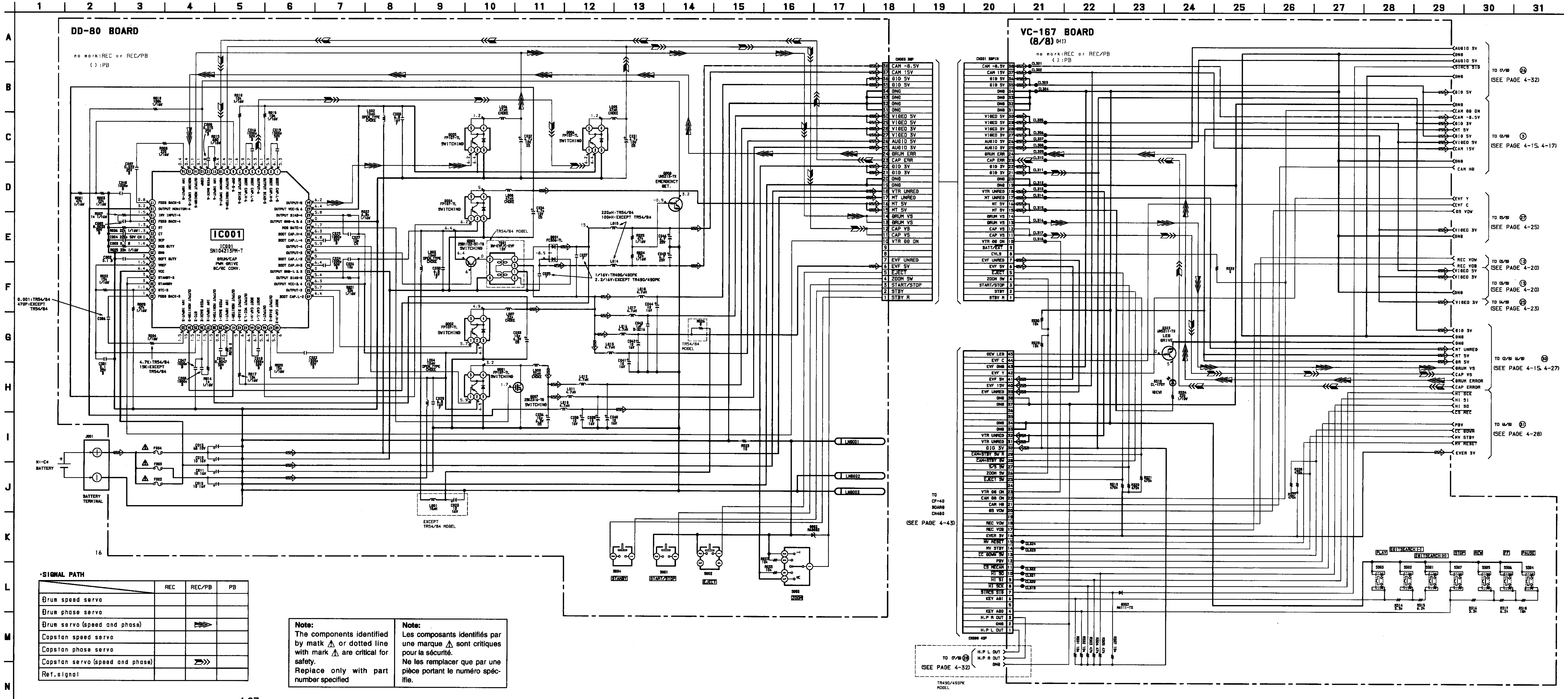
DD-80 BOARD (SIDE B)

STANDBY
START/STOP
EJECT
1.6A
F4
F3
F2
F1
(BATTERY TERMINAL)
22
22
G
F
E
D
C
B
A
16
1
2
3
4
5
6
7
8

DD-80 (POWER), VC-167 (VTR SWITCH) SCHEMATIC DIAGRAMS

• See page 4-7 for VC-167 BOARD printed wiring board.

— Ref. No. DD-80 Board, VC-167 Board; 1,000 Series —


DD-80 BOARD
no mark:REC or REC/PB
( ):PB
IC001
IC001
SN104213PM-T
DRUM/CAP
PWM DRIVE
DC/DC CONV.
VC-167 BOARD
(8/8)
no mark:REC or REC/PB
( ):PB
CN003 38P
CN001 38PIN
CN006 45P
Ni-Cd BATTERY
BATTERY TERMINAL
J001
EXCEPT TR54/84 MODEL
TR54/84 MODEL
TR490/490PK MODEL
Q008 EMERGENCY DET.
TO CF-40 BOARD CN480 (SEE PAGE 4-43)
TO (SEE PAGE 4-32)
TO (SEE PAGE 4-15, 4-17)
TO (SEE PAGE 4-25)
TO (SEE PAGE 4-20)
TO (SEE PAGE 4-23)
TO (SEE PAGE 4-15, 4-27)
TO (SEE PAGE 4-28)
STANDBY
START/STOP
EJECT
ZOOM
PLAY
EDITSEARCH(-)
EDITSEARCH(+)
STOP
REW
FF
PAUSE
LMB001
LMB002
LMB003

·SIGNAL PATH

	REC	REC/PB	PB
Drum speed servo			
Drum phase servo			
Drum servo (speed and phase)		⋙	
Capstan speed servo			
Capstan phase servo			
Capstan servo (speed and phase)		⋙	
Ref.signal			

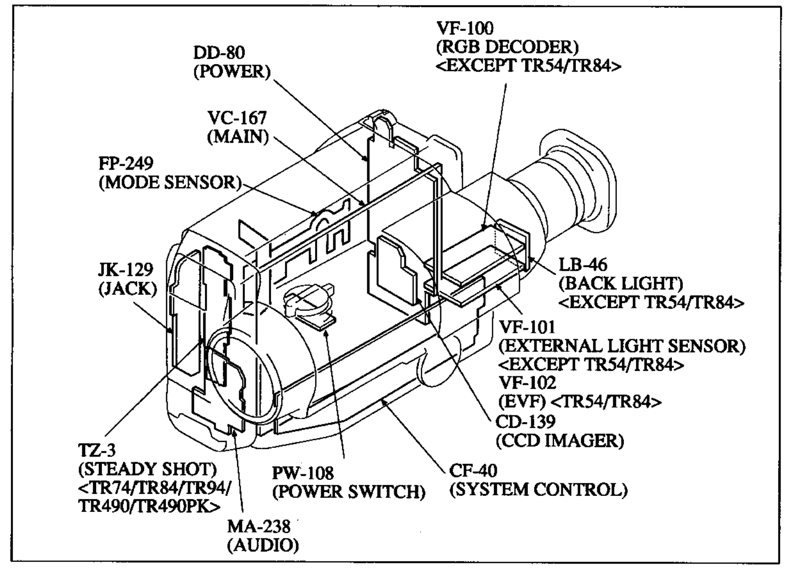
Note:	Note:
The components identified by matk ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

CF-40 (SYSTEM CONTROL), PW-108 (POWER SWITCH) PRINTED WIRING BOARDS

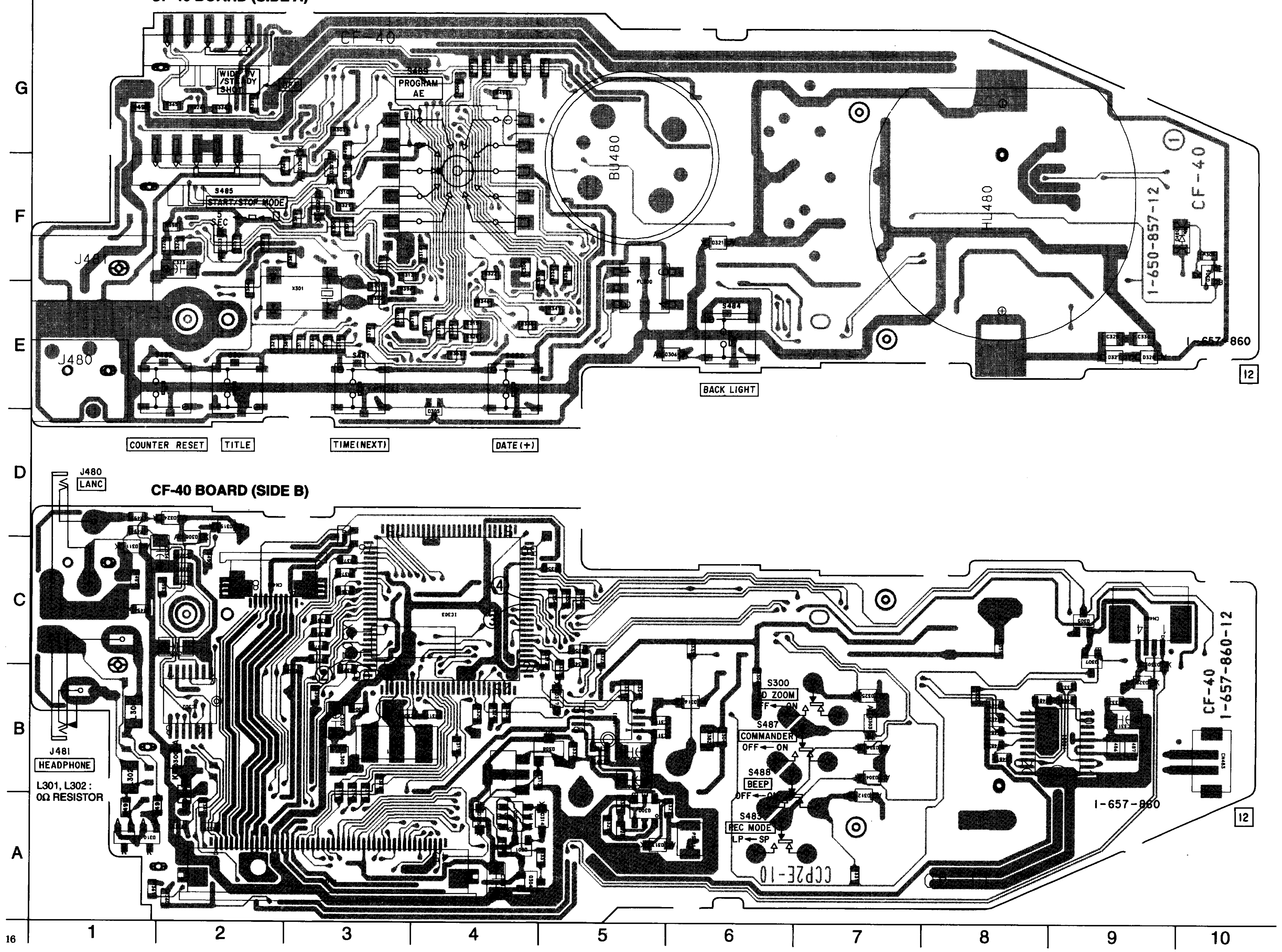
— Ref. No. CF-40 Board, PW-108 Board; 2,000 Series —

CF-40 BOARD

BU480	F–5	D304	B–7	Q302	B–4	R335	B–5	R377	E–4	S486	G–2
		D309	A–1	Q303	A–1	R336	G–5	R378	C–3	S487	B–7
C300	F–4	D310	A–1	Q304	A–1	R337	A–5	R379	C–3	S488	B–6
C301	E–3	D312	B–7	Q305	C–9	R338	A–4	R380	C–3	S489	F–4
C302	E–3	D314	A–5			R339	A–2	R381	C–3		
C303	B–3	D315	A–4	R300	F–3	R340	A–2	R384	B–3	X302	C–3
C304	B–3	D316	B–6	R301	F–3	R341	G–4	R386	E–2		
C305	B–3	D317	B–5	R303	G–3	R342	G–4	R387	F–3	XTL301	B–3
C306	B–5	D318	B–2	R304	B–6	R343	A–2	R389	E–3		
C308	B–5	D321	F–6	R305	F–10	R345	C–5	R390	B–3		
C310	B–5	D323	F–2	R306	B–6	R346	E–4	R392	C–2		
C311	B–5	D324	D–2	R307	G–4	R347	E–5	R393	C–2		
C312	C–5	D325	B–7	R308	G–4	R348	E–4	R394	F–3		
C313	B–5	D326	B–7	R309	G–4	R350	C–5	R395	G–2		
C314	A–4	D327	E–9	R310	F–3	R351	F–4	R396	E–3		
C315	E–3	D328	E–9	R311	F–3	R352	F–5	R397	F–2		
C316	E–3	D480	F–10	R312	B–4	R353	F–5	R398	F–2		
C317	E–3			R313	F–3	R354	C–5	R399	B–3		
C318	E–3	FL300	F–5	R314	F–4	R355	C–5	R490	C–2		
C319	E–4			R315	B–3	R356	C–5	R491	A–1		
C320	E–4	HL480	F–8	R316	B–3	R357	F–2	R492	A–1		
C321	E–2			R317	B–3	R358	C–5	R493	G–1		
C323	F–2	IC301	B–5	R318	B–3	R359	C–8	R494	D–1		
C325	C–2	IC302	B–2	R319	B–4	R360	A–2	R495	D–1		
C326	C–2	IC303	C–4	R320	B–4	R361	A–1	R496	C–1		
C327	C–2			R321	F–3	R362	F–2	R497	C–1		
C328	F–2	J480	E–1	R322	F–4	R363	E–4	R499	G–3		
C336	G–2	J481	F–1	R323	C–5	R364	E–4				
				R324	B–4	R365	G–2	S300	B–7		
CN480	A–3	L300	B–3	R325	B–4	R370	E–3	S301	E–2		
CN481	C–2	L301	B–1	R326	G–2	R371	E–3	S480	E–4		
CN482	C–9	L302	B–1	R327	A–6	R372	E–3	S481	E–3		
				R331	A–7	R373	C–3	S482	E–2		
D300	B–2	PS301	A–6	R332	B–5	R374	C–3	S483	A–6		
D301	D–3			R333	B–5	R375	C–3	S484	E–6		
D303	B–7	Q301	A–4	R334	B–5	R376	E–4	S485	F–2		

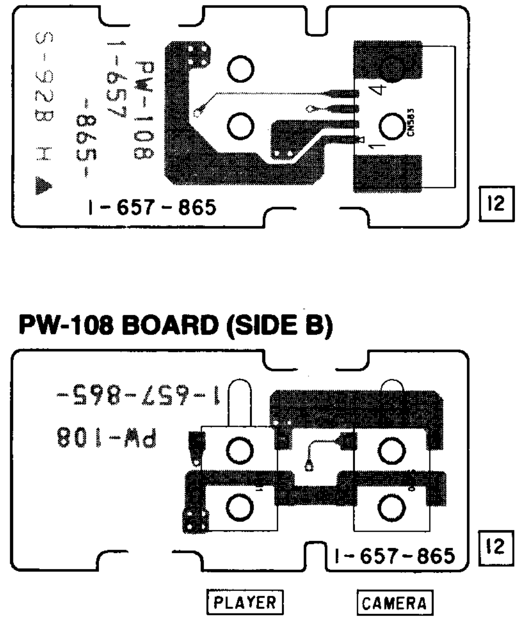

DD-80
(POWER)
VF-100
(RGB DECODER)
<EXCEPT TR54/TR84>
VC-167
(MAIN)
FP-249
(MODE SENSOR)
JK-129
(JACK)
LB-46
(BACK LIGHT)
<EXCEPT TR54/TR84>
VF-101
(EXTERNAL LIGHT SENSOR)
<EXCEPT TR54/TR84>
VF-102
(EVF) <TR54/TR84>
CD-139
(CCD IMAGER)
TZ-3
(STEADY SHOT)
<TR74/TR84/TR94/
TR490/TR490PK>
PW-108
(POWER SWITCH)
CF-40
(SYSTEM CONTROL)
MA-238
(AUDIO)

There are few cases that the part printed on this diagram isn't mounted in this model.


CF-40 BOARD (SIDE A)

CF-40 BOARD (SIDE B)

L301, L302 : 0Ω RESISTOR
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
16
CF-40
WIDE TV /STEADY SHOT
S486
PROGRAM AE
BU480
S485
START/STOP MODE
HL480
CF-40
1-650-857-12
J481
J480
BACK LIGHT
1-657-860
12
COUNTER RESET
TITLE
TIME(NEXT)
DATE(+)
J480
LANC
IC303
J481
HEADPHONE
S300
ZOOM
OFF ← ON
S487
COMMANDER
OFF ← ON
S488
BEEP
OFF ← ON
S483
REC MODE
LP ← SP
CCP2E-10
CF-40
1-657-860-12
1-657-860
12


PW-108 BOARD (SIDE A)

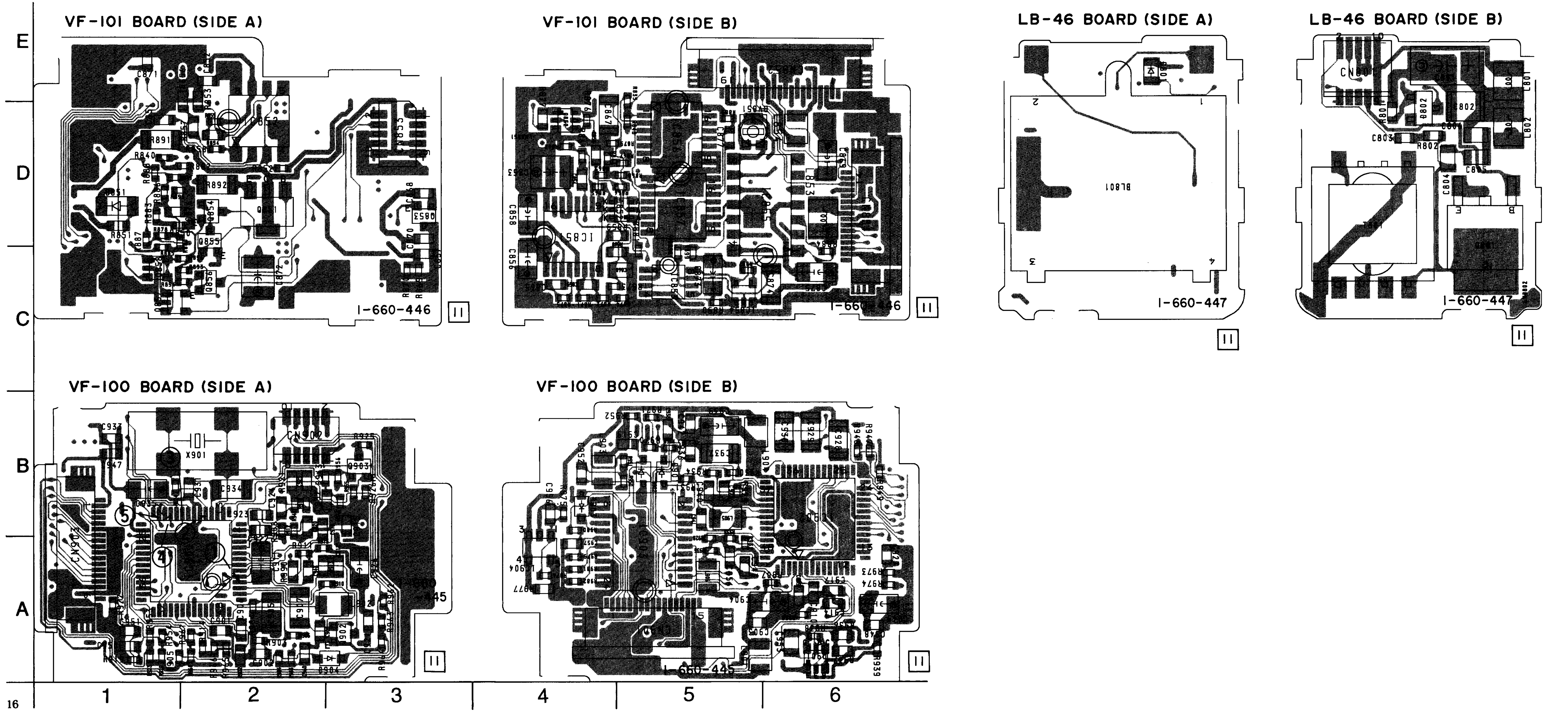
PW-108 BOARD (SIDE B)
PW-108
1-657-865
1-657-865
12
PW-108
1-657-865-
1-657-865
12
PLAYER
CAMERA

VF-101 (EXTERNAL LIGHT SENSOR), VF-100 (RGB DECODER), LB-46 (BACK LIGHT) PRINTED WIRING BOARDS

— Ref. No. VF-101 Board, VF-100 Board, LB-46 Board; 4,000 Series —

TR74/TR94/TR440/TR440PK/TR490/TR490PK MODELS

There are few cases that the part printed on this diagram isn't mounted in this model.


VF-101 BOARD (SIDE A)
VF-101 BOARD (SIDE B)
LB-46 BOARD (SIDE A)
LB-46 BOARD (SIDE B)
VF-100 BOARD (SIDE A)
VF-100 BOARD (SIDE B)
1-660-446
1-660-447
1-660-445
11
E
D
C
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A
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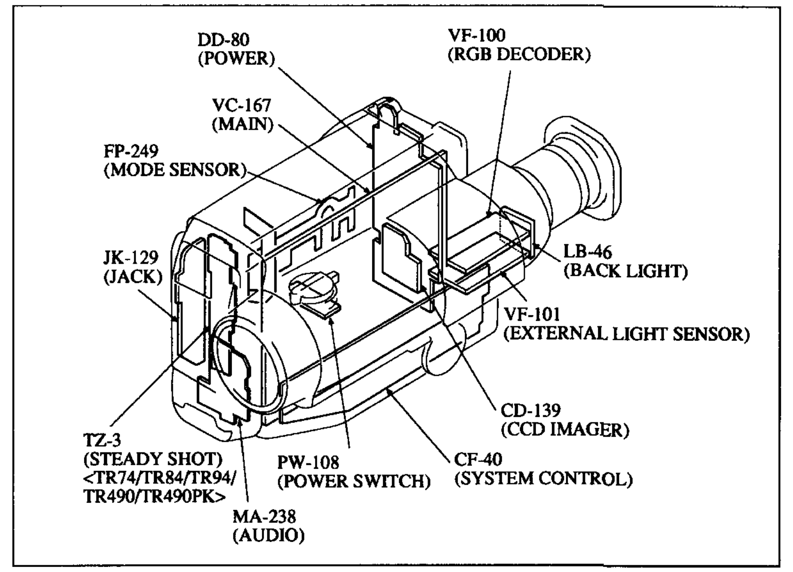
6

VF-100 BOARD

C901	A-2	C930	B-6	C970	B-5	R902	A-2	R936	A-6	R981	A-4
C902	A-2	C931	B-2			R903	A-2	R937	A-6	R982	A-4
C903	A-5	C932	B-2	CN901	A-5	R904	A-2	R938	A-6	R990	A-2
C904	A-5	C933	B-1	CN902	B-2	R905	A-1	R939	A-6		
C905	A-2	C934	B-2	CN903	A-1	R906	A-2	R943	B-2	X901	B-2
C906	A-2	C935	B-1			R907	A-6	R947	B-6		
C907	A-2	C936	B-5	D901	B-5	R908	B-2	R948	B-6		
C908	A-2	C937	B-5			R910	A-3	R949	B-6		
C909	A-6	C938	B-5	IC901	A-2	R911	A-2	R953	A-1		
C910	A-6	C939	B-5	IC902	B-6	R912	B-2	R954	A-1		
C911	A-2	C940	B-5	IC903	A-5	R914	A-2	R959	A-6		
C913	A-2	C941	B-5	IC904	A-4	R919	A-1	R960	A-2		
C914	A-6	C942	B-5			R920	A-1	R961	A-2		
C915	B-3	C943	A-5	L901	A-5	R921	B-2	R969	B-5		
C917	A-6	C947	B-1	L902	A-3	R922	A-1	R970	B-5		
C920	B-2	C948	A-6	L904	B-6	R923	A-1	R971	B-5		
C921	A-3	C949	A-6	L905	B-5	R924	B-1	R973	A-6		
C925	B-2	C950	A-1	L906	A-5	R925	B-3	R974	A-6		
C926	A-3	C951	A-1			R926	B-3	R975	B-4		
C927	A-6	C953	A-6	Q901	A-6	R930	B-5	R976	A-4		
C928	B-6	C954	A-5	Q902	A-3	R931	B-5	R979	A-4		
C929	B-6	C956	B-4			R934	B-5	R980	B-4		

VF-101 BOARD

C851	D-1	CN851	D-6	R852	D-2	R868	D-5
C852	E-2	CN852	E-6	R853	E-2	R869	C-3
C853	D-4	CN853	D-3	R854	D-2	R870	C-3
C854	D-4			R855	D-2	R871	C-4
C855	D-5	D851	D-1	R856	E-1	R872	C-4
C856	D-4	D852	D-5	R857	D-1	R873	C-5
C857	D-3			R858	D-1	R874	C-5
C858	D-4	IC851	D-4	R859	D-5	R875	C-4
C859	D-4	IC852	D-2	R860	D-5	R879	D-5
C860	C-5			R861	D-5	R881	D-5
C865	D-4	L853	D-6	R862	D-4	R891	D-1
C867	D-5			R863	D-5		
C868	D-3	Q853	D-3	R864	D-5		
C870	D-3			R865	D-5		
		R851	D-1	R867	D-5		

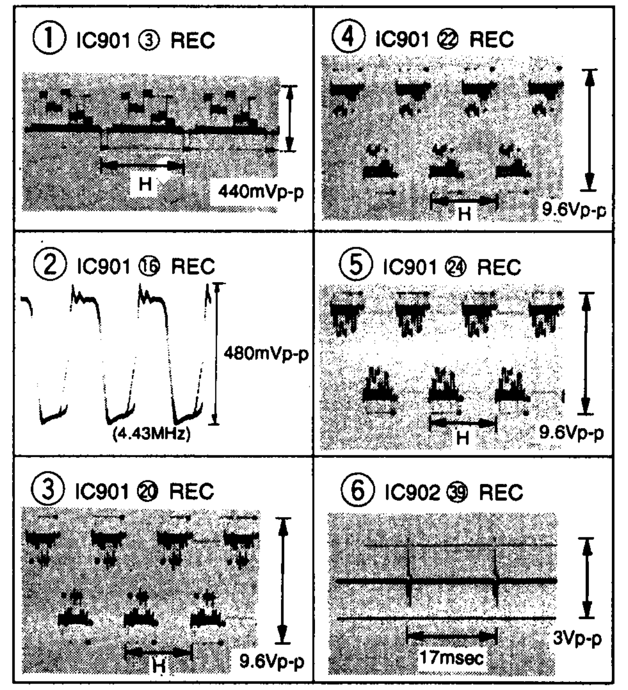

DD-80
(POWER)
VF-100
(RGB DECODER)
VC-167
(MAIN)
FP-249
(MODE SENSOR)
JK-129
(JACK)
LB-46
(BACK LIGHT)
VF-101
(EXTERNAL LIGHT SENSOR)
CD-139
(CCD IMAGER)
TZ-3
(STEADY SHOT)
<TR74/TR84/TR94/
TR490/TR490PK>
PW-108
(POWER SWITCH)
CF-40
(SYSTEM CONTROL)
MA-238
(AUDIO)

VF-93 (EXTERNAL LIGHT SENSOR), VF-94 (RGB DECODER), LB-44 (BACK LIGHT) SCHEMATIC DIAGRAMS

TR64 MODEL

— Ref. No. VF-93 Board, VF-94 Board, LB-44 Board; 7,000 Series —

VF-94 BOARD


① IC901 ③ REC

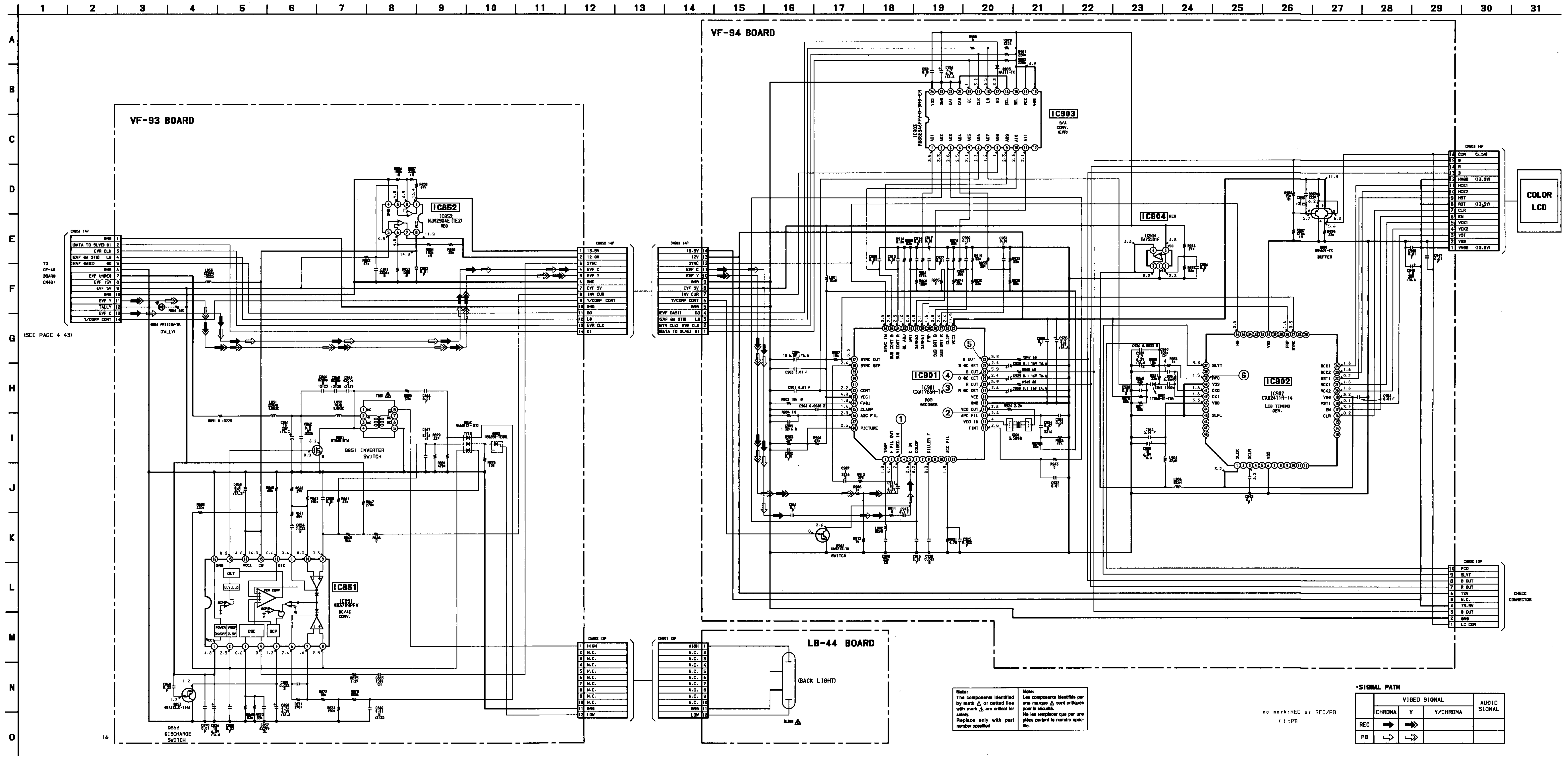
② IC901 ⑯ REC

③ IC901 ⑳ REC

④ IC901 ㉒ REC

⑤ IC901 ㉔ REC

⑥ IC902 ㊴ REC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O
VF-93 BOARD
VF-94 BOARD
LB-44 BOARD
IC852
IC851
Q851 INVERTER SWITCH
Q852 DISCHARGE SWITCH
(SEE PAGE 4-43)
IC901
IC902
IC903
IC904
BUFFER
SWITCH
(BACK LIGHT)
COLOR LCD
CHECK CONNECTOR

Note:	Note:
The components identified by matk ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

no mark:REC or REC/PB
( ):PB

•SIGNAL PATH

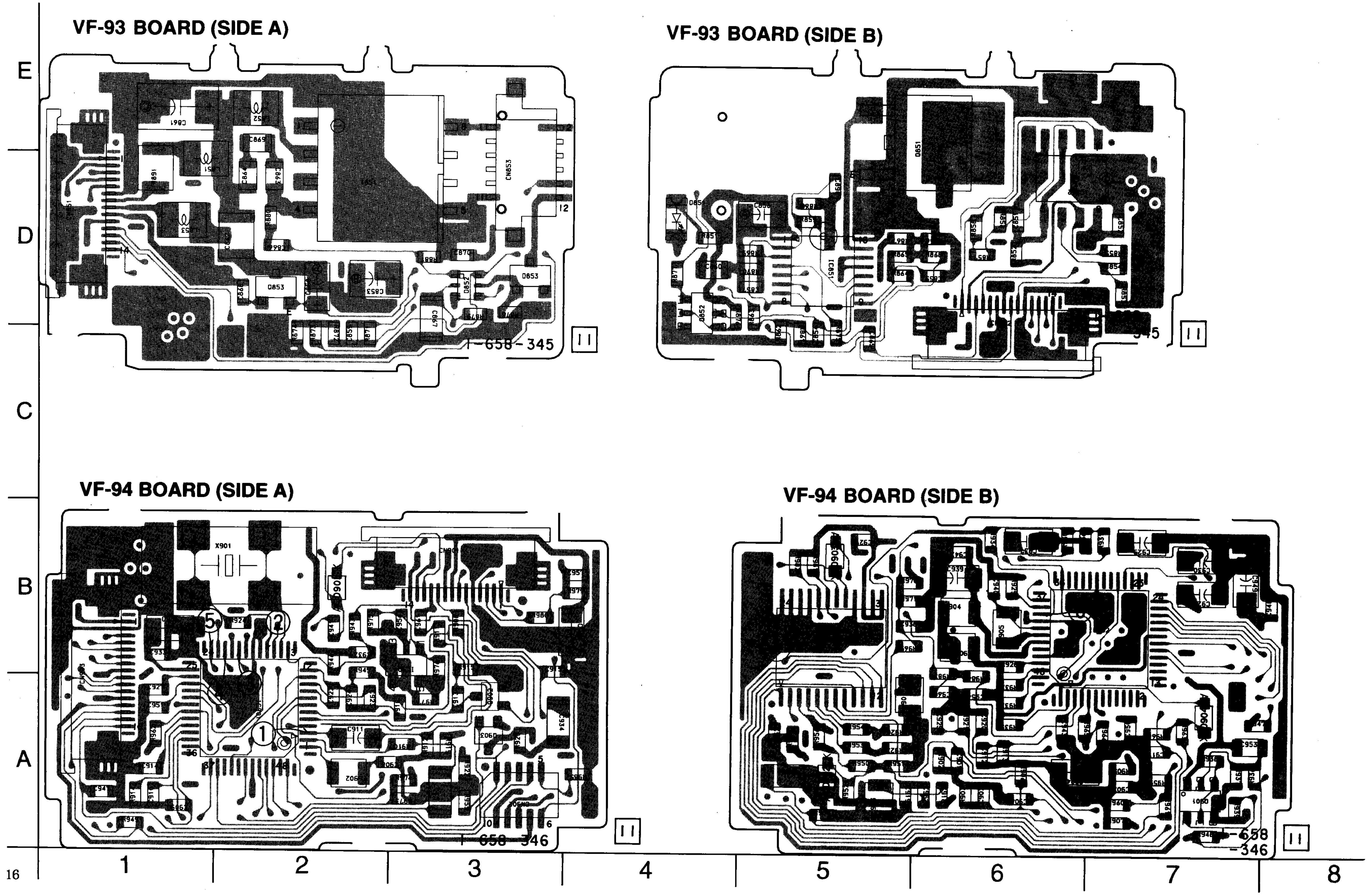
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡		
PB	⇨	⇨		

TR64 MODEL

VF-93 (EXTERNAL LIGHT SENSOR), VF-94 (RGB DECODER), LB-44 (BACK LIGHT) PRINTED WIRING BOARDS

— Ref. No. VF-93 Board, VF-94 Board, LB-44 Board; 7,000 Series —

There are few cases that the part printed on this diagram isn't mounted in this model.


VF-93 BOARD (SIDE A)

VF-93 BOARD (SIDE B)

VF-94 BOARD (SIDE A)

VF-94 BOARD (SIDE B)

E
D
C
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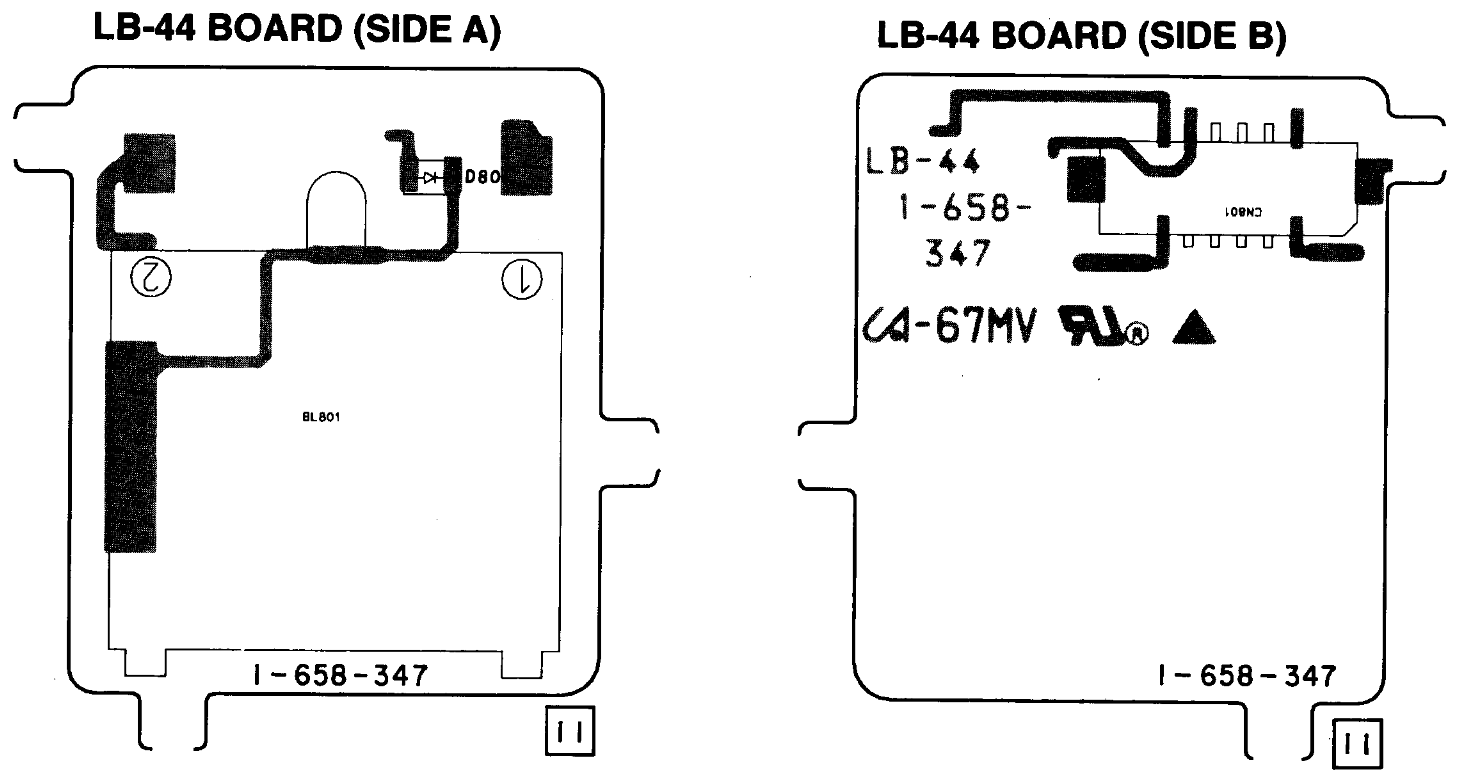
1-658-345
1-658-346
11


LB-44 BOARD (SIDE A)

LB-44 BOARD (SIDE B)

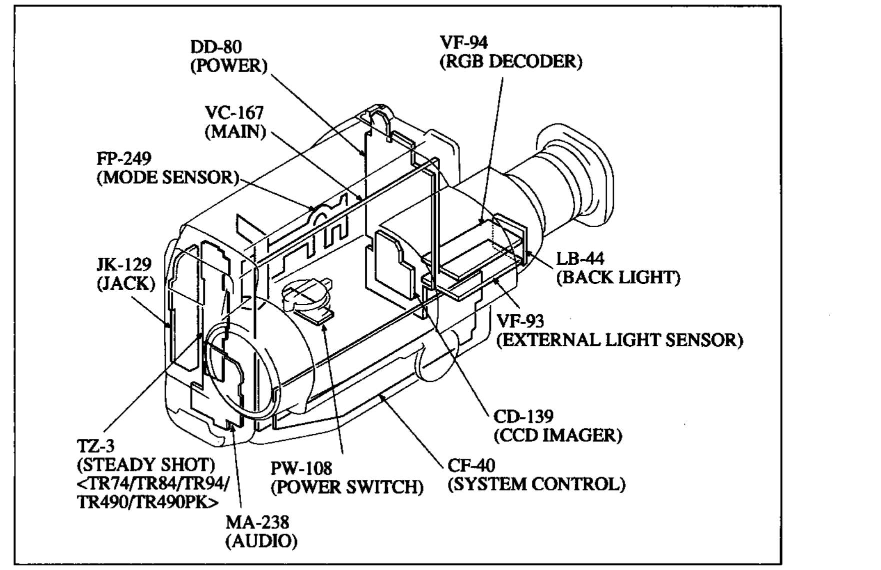
1-658-347
LB-44
1-658-
347
BL901
11

VF-94 BOARD

C901	A-6	C930	B-7	C930C961	B-3	R902	A-6	C930R936	A-7	R981	B-5
C902	A-6	C931	A-5			R903	A-6	R937	A-7	R982	B-5
C903	A-7	C932	B-2	CN901	B-3	R904	A-5	R938	A-7		
C904	A-6	C933	B-1	CN902	A-3	R905	A-7	R939	A-7	X901	B-2
C905	A-5	C934	A-3	CN903	A-1	R906	A-6	R943	B-2		
C906	A-6	C935	B-1			R907	A-7	R947	A-7		
C907	A-3	C936	B-6	D901	B-2	R908	B-3	R948	A-7		
C908	A-3	C937	B-6	D903	B-5	R910	A-3	R949	A-1		
C909	A-1	C938	B-5			R911	B-3	R953	A-5		
C910	A-1	C939	B-6	IC901	A-2	R912	A-3	R954	A-5		
C911	A-2	C940	A-6	IC902	B-7	R914	A-1	R959	A-7		
C913	A-3	C941	B-2	IC903	B-5	R919	A-3	R960	A-7		
C914	A-1	C942	B-6	IC904	B-3	R920	A-5	R961	A-7		
C915	B-3	C943	A-6			R921	A-6	R969	B-5		
C917	A-7	C947	A-1	L901	A-5	R922	A-3	R970	B-5		
C920	A-6	C948	B-8	L902	A-2	R923	A-5	R971	B-5		
C921	B-5	C949	B-7	L904	B-6	R924	B-2	R973	A-3		
C925	A-6	C950	A-7	L905	B-6	R925	A-3	R974	A-3		
C926	B-4	C951	A-1	L906	B-6	R926	A-5	R975	B-2		
C927	A-1	C953	A-7			R930	B-6	R976	B-3		
C928	B-7	C954	A-6	Q901	A-7	R931	B-7	R979	B-4		
C929	B-7	C956	B-3	Q902	A-3	R934	B-6	R980	B-3		

VF-93 BOARD

C851	D-6	C930C866	D-2	C930IC851	D-5	C930R857	D-6	C930R873	C-2
C852	D-7	C867	D-3	IC852	D-6	R858	D-6	R874	C-2
C853	D-2	C868	D-2			R859	D-5	R875	C-5
C854	C-5	C869	E-2	L851	D-1	R860	D-5	R878	D-3
C855	D-6	C870	D-3	L852	E-2	R861	C-5	R879	D-3
C856	D-5	C890	D-5	L853	D-1	R862	C-5	R880	D-2
C857	D-5			Q851	E-5	R863	D-5	R881	D-3
C858	D-2	CN851	D-1	Q853	D-2	R864	D-5	R891	D-1
C859	C-2	CN852	D-6			R865	D-5		
C860	D-4	CN853	D-3	R851	D-4	R867	D-5	T851	D-2
C861	E-2			R852	D-6	R868	D-6		
C862	D-2	D851	D-4	R853	D-7	R869	D-5		
C863	D-2	D852	D-3	R854	D-7	R870	D-5		
C864	D-2	D853	D-3	R855	D-7	R871	C-2		
C865	C-5			R856	D-6	R872	C-2		

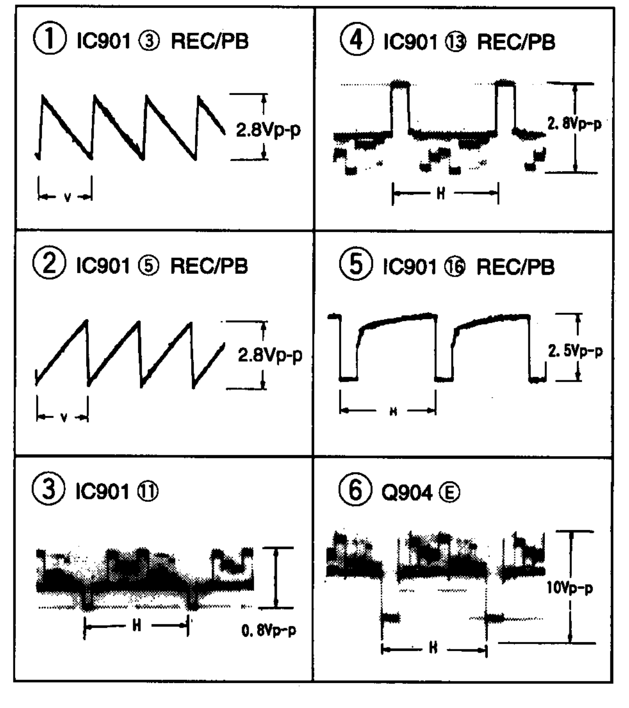

DD-80
(POWER)
VF-94
(RGB DECODER)
VC-167
(MAIN)
FP-249
(MODE SENSOR)
JK-129
(JACK)
LB-44
(BACK LIGHT)
VF-93
(EXTERNAL LIGHT SENSOR)
CD-139
(CCD IMAGER)
TZ-3
(STEADY SHOT)
<TR74/TR84/TR94/
TR490/TR490PK>
PW-108
(POWER SWITCH)
CF-40
(SYSTEM CONTROL)
MA-238
(AUDIO)

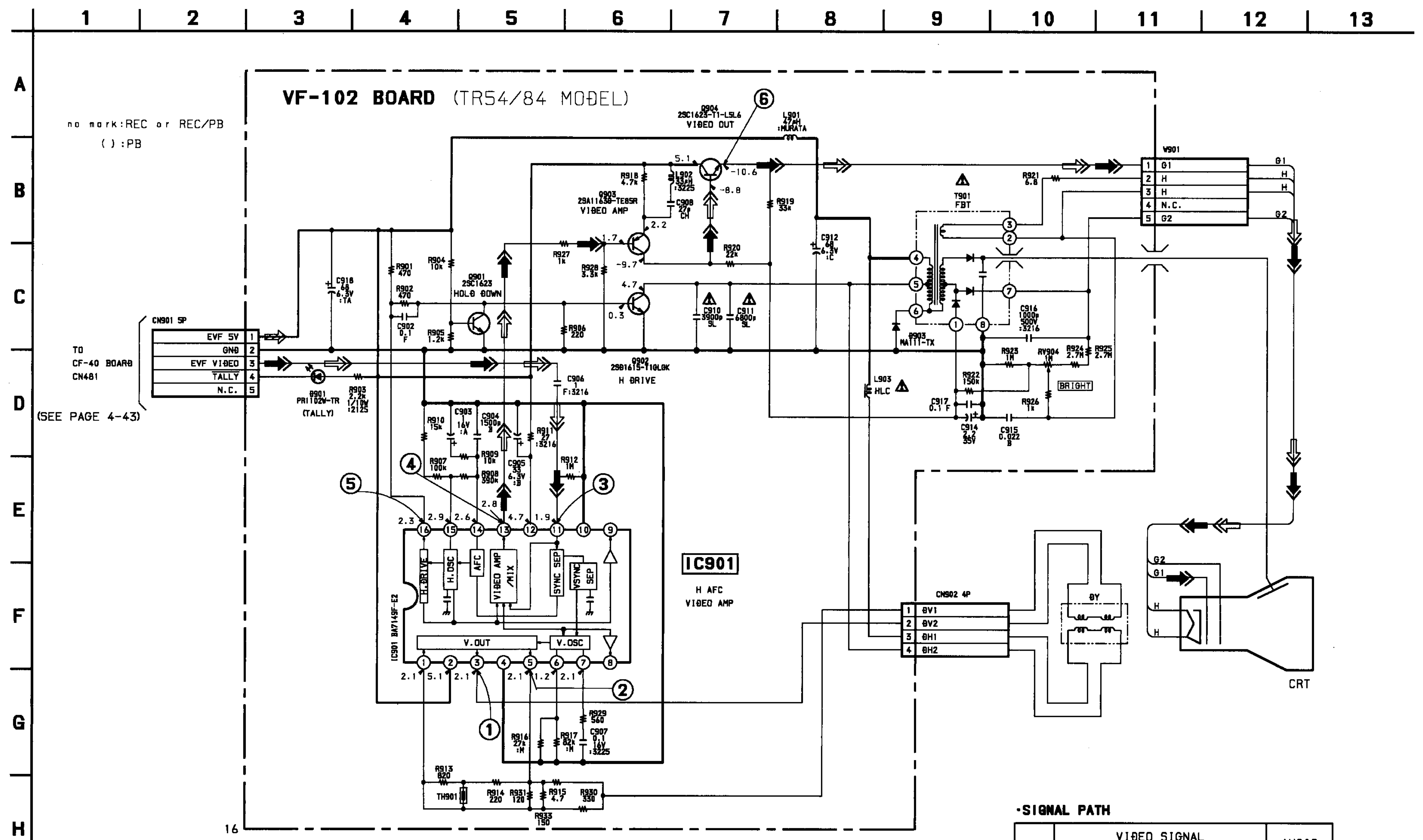
VF-102 (EVF) PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM

TR54/TR84 MODELS

— Ref. No. : VF-102 Board; 6,000 Series —

VF-102 BOARD

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13
A
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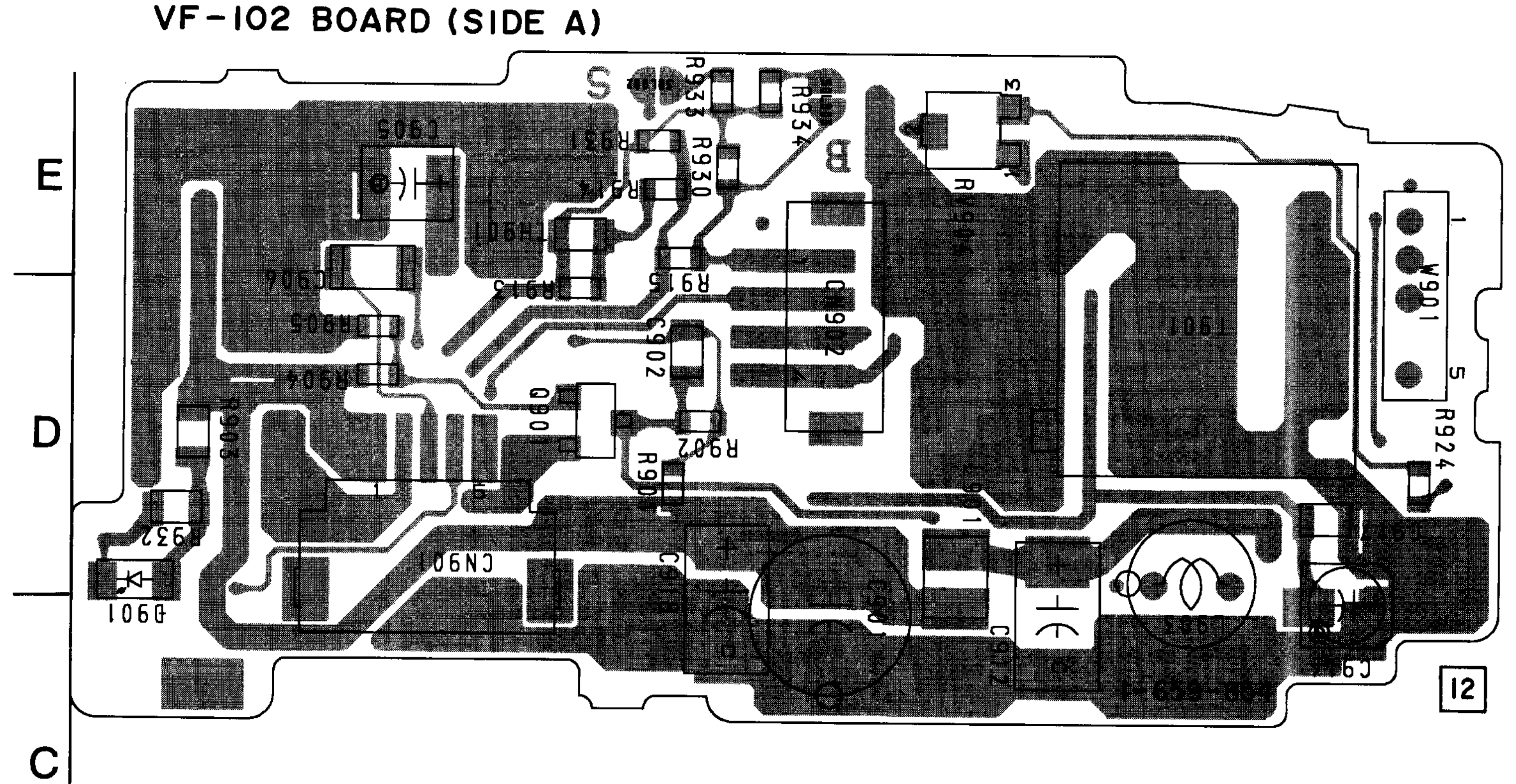
D
E
F
G
H
VF-102 BOARD (TR54/84 MODEL)
no mark:REC or REC/PB
( ):PB
TO
CF-40 BOARD
CN481
(SEE PAGE 4-43)
CN901 5P
EVF 5V
GND
EVF VIDEO
TALLY
N.C.
D901
PR1102W-TR
(TALLY)
Q901
2SC1623
HOLD DOWN
IC901
H AFC
VIDEO AMP
H.DRIVE
H.OSC
AFC
V.OUT
V.OSC
CN902 4P
DY1
DY2
DY3
DY4
W901
T901
FBT
TH901
CRT
16

·SIGNAL PATH

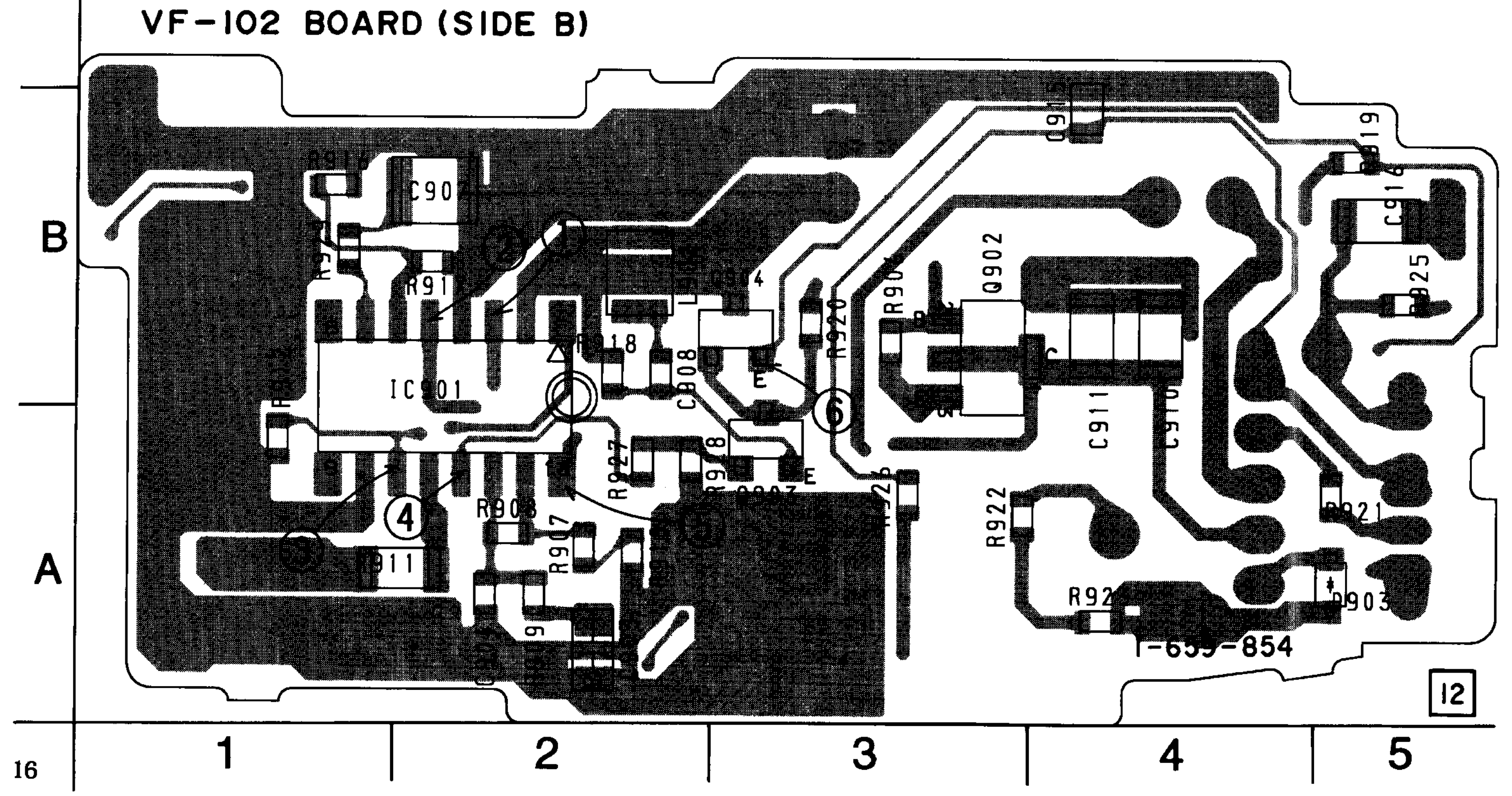
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC		➡		
PB		⇨		

Note:	Note:
The components identified by matk ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

VF-102 BOARD (SIDE A)

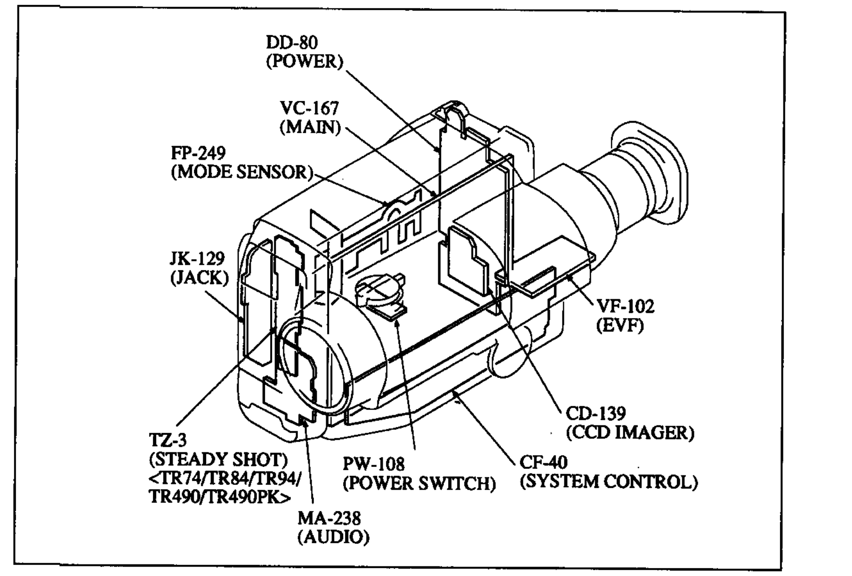

E
D
C
CN901
CN902
IC901
T901
W901
R924
1-659-854
12

VF-102 BOARD (SIDE B)


B
A
1
2
3
4
5
16
IC901
Q902
C911
R922
R917
1-659-854
12

VF-102 BOARD

C902	D-3	L902	B-2	R918	B-2
C903	A-2	L903	D-4	R919	B-5
C904	A-2			R920	B-3
C905	E-2	Q901	D-2	R921	A-5
C906	D-1	Q902	B-3	R922	A-3
C907	B-2	Q903	A-3	R923	A-4
C908	B-2	Q904	B-3	R924	D-5
C910	B-4			R925	B-5
C911	B-4	R901	D-2	R926	A-3
C912	D-4	R902	D-3	R927	A-2
C914	C-5	R903	D-1	R928	A-3
C915	B-4	R904	D-1	R929	B-1
C916	B-5	R905	D-1	R930	E-3
C917	D-5	R906	B-3	R931	E-2
C918	D-3	R907	A-2	R933	E-3
		R908	A-2		
CN901	D-2	R909	A-2	RV904	E-3
CN902	D-3	R910	A-2		
		R911	A-2	T901	D-4
D901	D-1	R912	B-1		
D903	A-5	R913	D-2	TH901	E-2
		R914	E-2		
IC901	B-2	R915	E-3	W901	E-5
		R916	B-1		
L901	D-3	R917	B-2		


DD-80
(POWER)
VC-167
(MAIN)
FP-249
(MODE SENSOR)
JK-129
(JACK)
VF-102
(EVF)
CD-139
(CCD IMAGER)
TZ-3
(STEADY SHOT)
<TR74/TR84/TR94/
TR490/TR490PK>
PW-108
(POWER SWITCH)
CF-40
(SYSTEM CONTROL)
MA-238
(AUDIO)

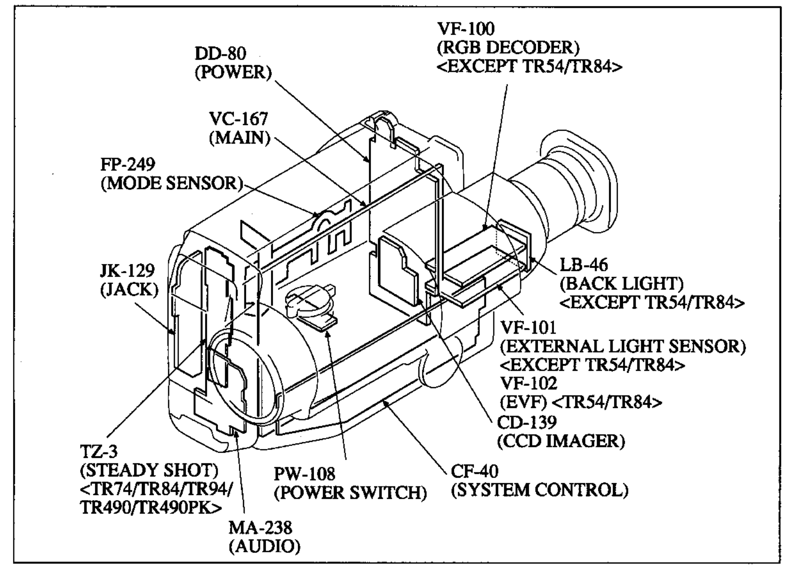
TZ-3 (STEADY SHOT) PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM

— Ref. No. : TZ-3 Board; 5,000 Series —

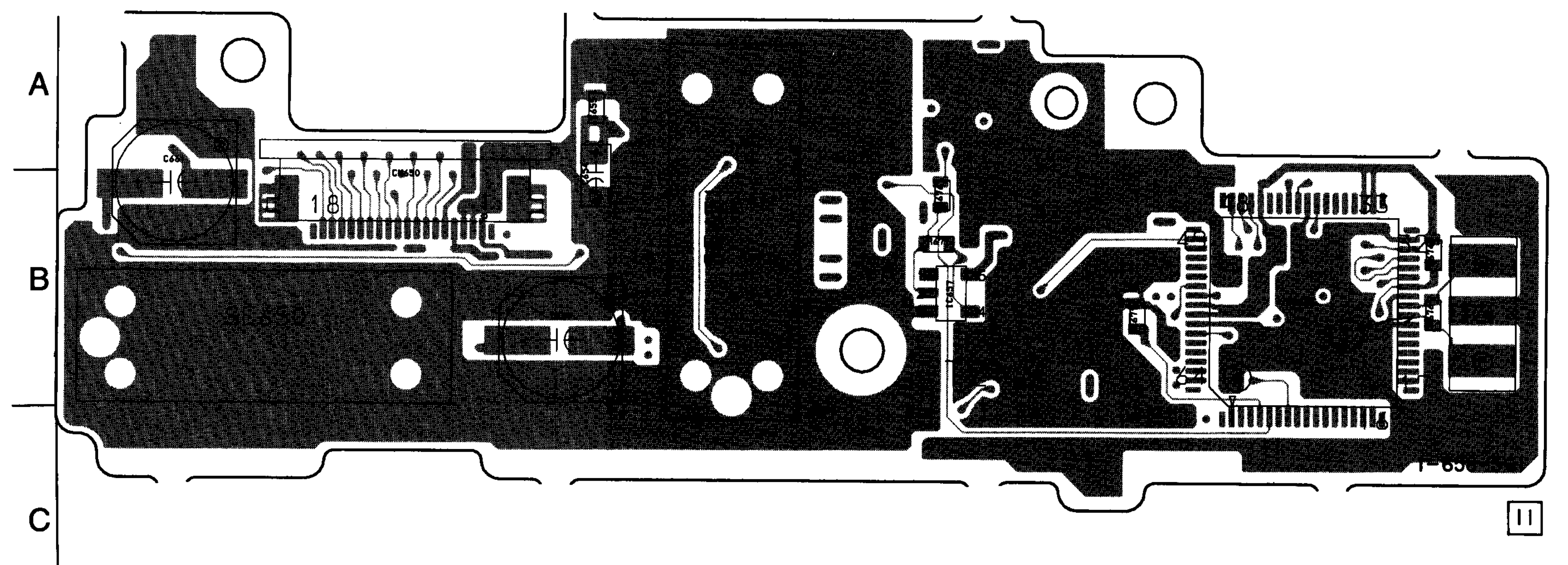
There are few cases that the part printed on this diagram isn't mounted in this model.

TZ-3 BOARD

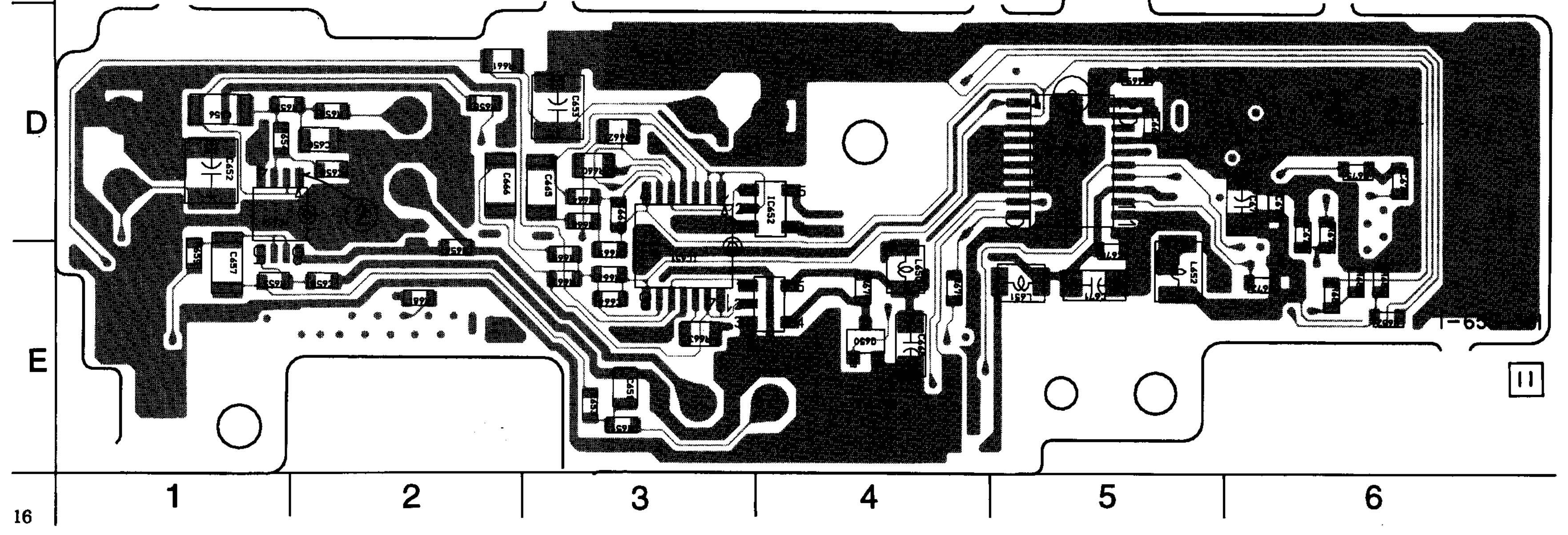
C650	D–2	IC650	D–1	R665	D–3
C651	E–3	IC651	D–3	R666	E–3
C652	D–1	IC652	D–3	R667	D–3
C653	D–3	IC653	D–4	R668	D–3
C654	A–3	IC654	D–5	R669	D–3
C655	A–3	IC655	B–6	R670	E–4
C656	D–1			R671	B–5
C657	E–1	L650	E–4	R672	D–6
C658	D–2	L651	E–5	R673	D–6
C659	E–2	L652	D–5	R674	B–6
C660	B–3			R675	D–6
C661	A–1	Q650	E–4	R676	B–6
C663	D–3			R679	E–4
C664	E–3	R650	D–2	R681	E–2
C665	D–2	R651	E–3	R683	D–6
C666	D–2	R652	D–1	R685	D–6
C667	D–5	R653	E–3		
C668	E–4	R654	D–1	SE650	B–2
C669	D–5	R655	E–1	SE651	B–3
C670	D–5	R656	E–2		
C671	E–5	R658	D–2	X650	B–6
C672	D–6	R659	E–1		
C673	D–6	R660	D–3		
C674	D–6	R661	D–2		
C675	D–6	R662	D–3		
		R663	E–3		
CN650	B–2	R664	D–3		


VF-100
(RGB DECODER)
<EXCEPT TR54/TR84>
DD-80
(POWER)
VC-167
(MAIN)
FP-249
(MODE SENSOR)
JK-129
(JACK)
LB-46
(BACK LIGHT)
<EXCEPT TR54/TR84>
VF-101
(EXTERNAL LIGHT SENSOR)
<EXCEPT TR54/TR84>
VF-102
(EVF) <TR54/TR84>
CD-139
(CCD IMAGER)
TZ-3
(STEADY SHOT)
<TR74/TR84/TR94/
TR490/TR490PK>
PW-108
(POWER SWITCH)
CF-40
(SYSTEM CONTROL)
MA-238
(AUDIO)

TZ-3 BOARD (SIDE A)



TZ-3 BOARD (SIDE B)


D
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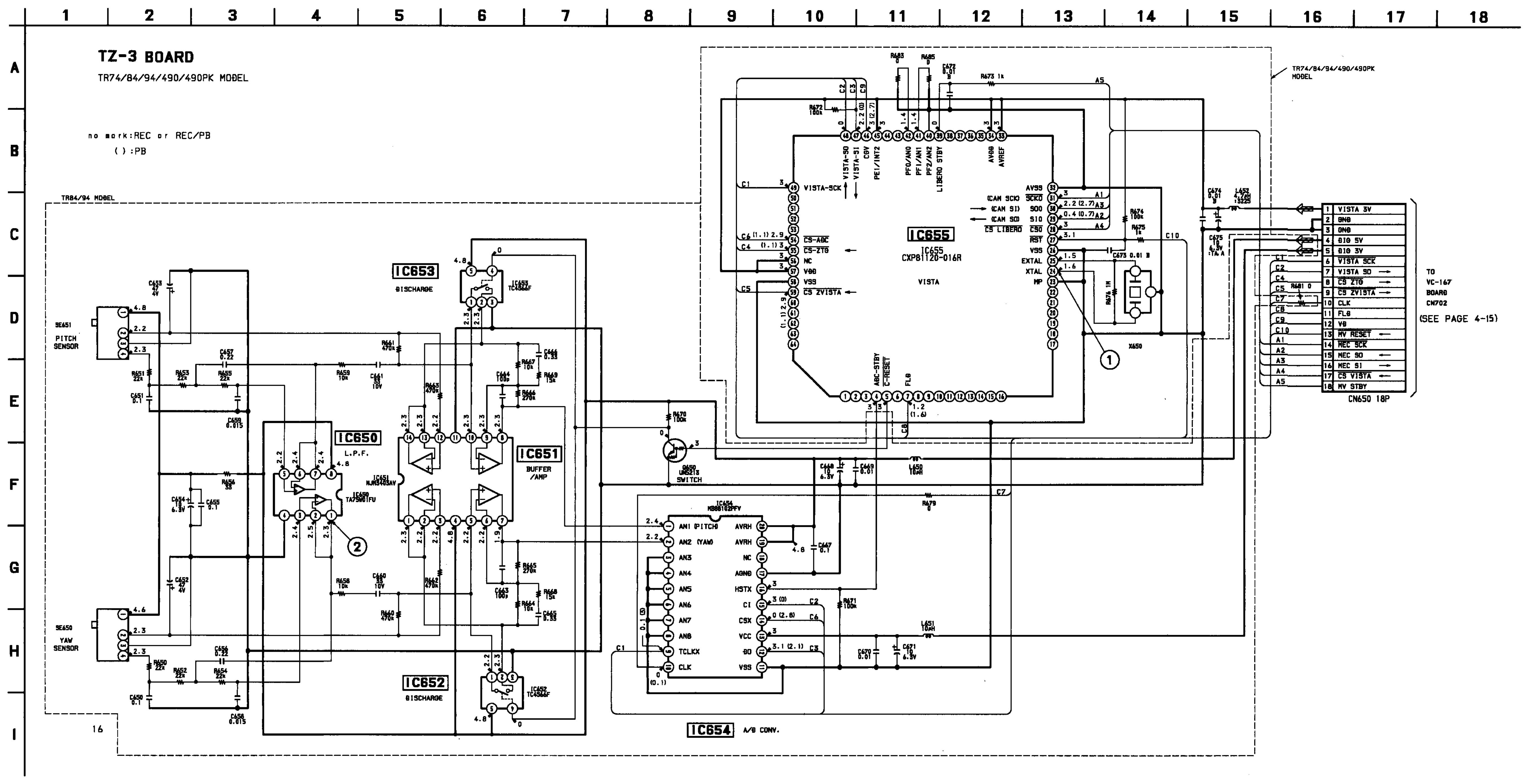
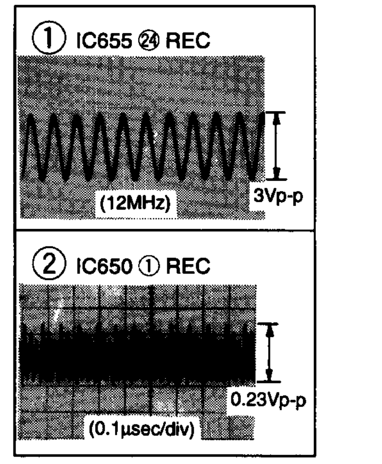

TZ-3 BOARD
TR74/84/94/490/490PK MODEL
no mark:REC or REC/PB
( ):PB
TR84/94 MODEL
TR74/84/94/490/490PK MODEL
SE651
PITCH SENSOR
SE650
YAW SENSOR
IC653
DISCHARGE
IC653 TC4S66F
IC650
L.P.F.
IC650 TA75W01FU
IC651
BUFFER /AMP
IC651 NJM3403AV
IC652
DISCHARGE
IC652 TC4S66F
Q650 UN5213 SWITCH
IC654 MB88102PFV
IC654 A/D CONV.
AN1 (PITCH)
AN2 (YAW)
AN3
AN4
AN5
AN6
AN7
AN8
TCLKX
CLK
AVRH
AVRH
NC
AGND
HSTX
CI
CSX
VCC
DO
VSS
IC655
IC655 CXP81120-016R
VISTA
VISTA-SCK
CS-ADC
CS-ZTG
NC
VDD
VSS
CS ZVISTA
VISTA-SO
VISTA-SI
CGV
PE1/INT2
PF0/AN0
PF1/AN1
PF2/AN2
LIBERO STBY
AVDD
AVREF
AVSS
(CAM SCK) SCK0
(CAM SI) SO0
(CAM SO) SI0
CS LIBERO CS0
RST
VSS
EXTAL
XTAL
MP
ADC-STBY
C-RESET
FLD
X650
1
2
CN650 18P
1 VISTA 3V
2 GND
3 GND
4 DIG 5V
5 DIG 3V
6 VISTA SCK
7 VISTA SO
8 CS ZTG
9 CS ZVISTA
10 CLK
11 FLD
12 VD
13 MV RESET
14 MEC SCK
15 MEC SO
16 MEC SI
17 CS VISTA
18 MV STBY
TO VC-167 BOARD CN702
(SEE PAGE 4-15)
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
A B C D E F G H I

TZ-3 BOARD

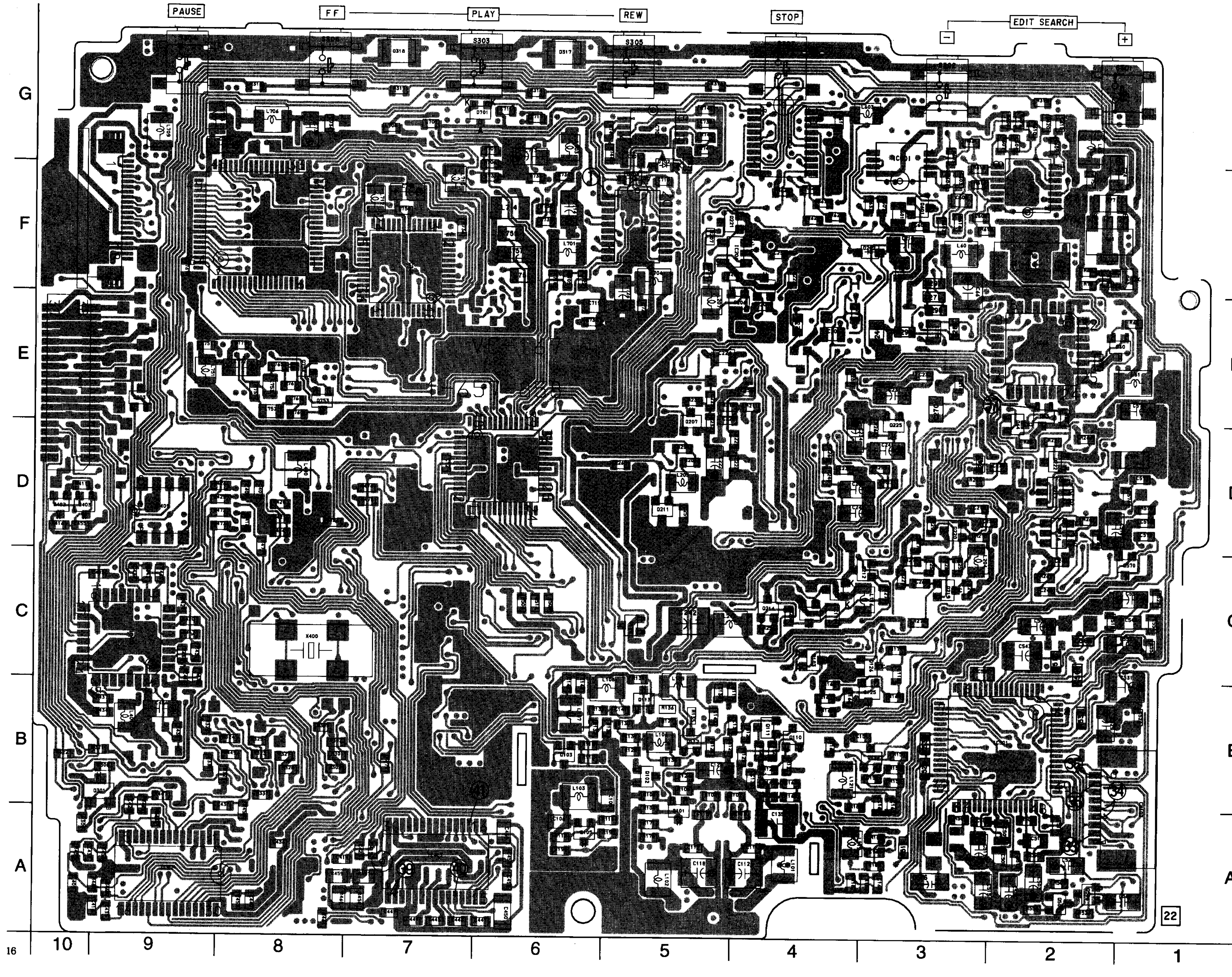


VC-167 (MAIN) PRINTED WIRING BOARD

— Ref. No. VC-167 Board; 1,000 Series —

There are few cases that the part printed on this diagram isn't mounted in this model.

VC-167 BOARD (SIDE A)


PAUSE
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PLAY
REW
STOP
EDIT SEARCH
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S305
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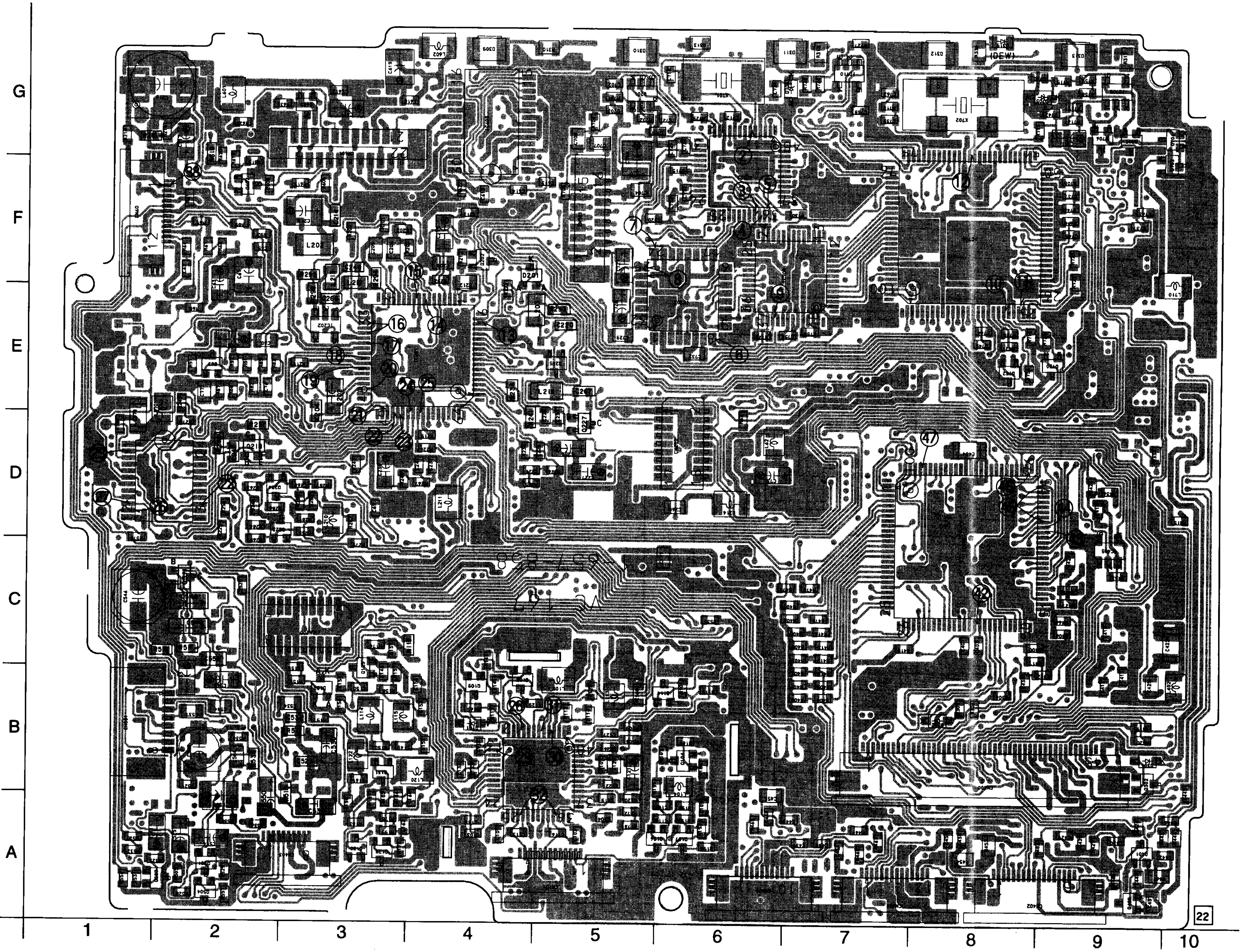
VC-167 BOARD (SIDE B)


G
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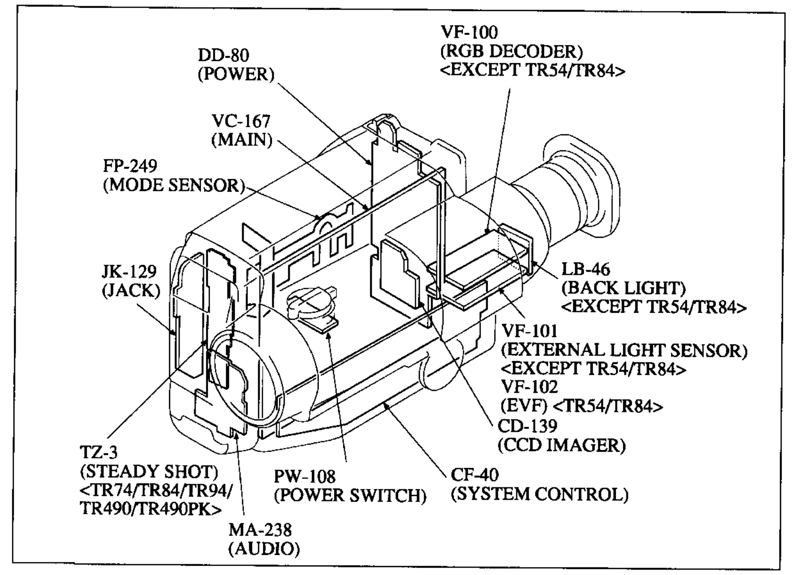
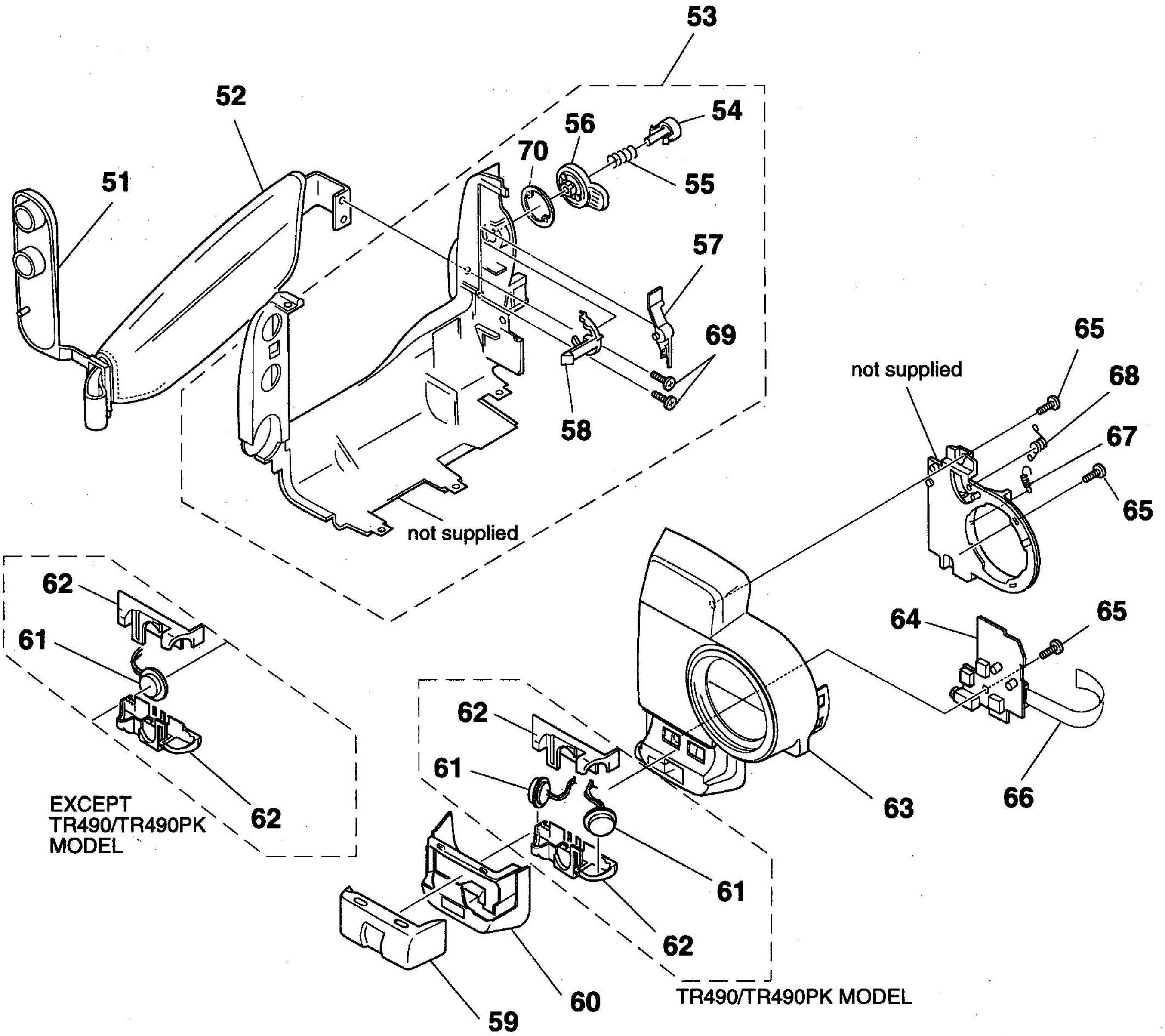
22


DD-80
(POWER)
VF-100
(RGB DECODER)
<EXCEPT TR54/TR84>
VC-167
(MAIN)
FP-249
(MODE SENSOR)
JK-129
(JACK)
LB-46
(BACK LIGHT)
<EXCEPT TR54/TR84>
VF-101
(EXTERNAL LIGHT SENSOR)
<EXCEPT TR54/TR84>
VF-102
(EVF) <TR54/TR84>
CD-139
(CCD IMAGER)
TZ-3
(STEADY SHOT)
<TR74/TR84/TR94/
TR490/TR490PK>
PW-108
(POWER SWITCH)
CF-40
(SYSTEM CONTROL)
MA-238
(AUDIO)

5-1-2. CABINET (L), F PANEL SECTION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not supplied
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EXCEPT TR490/TR490PK MODEL
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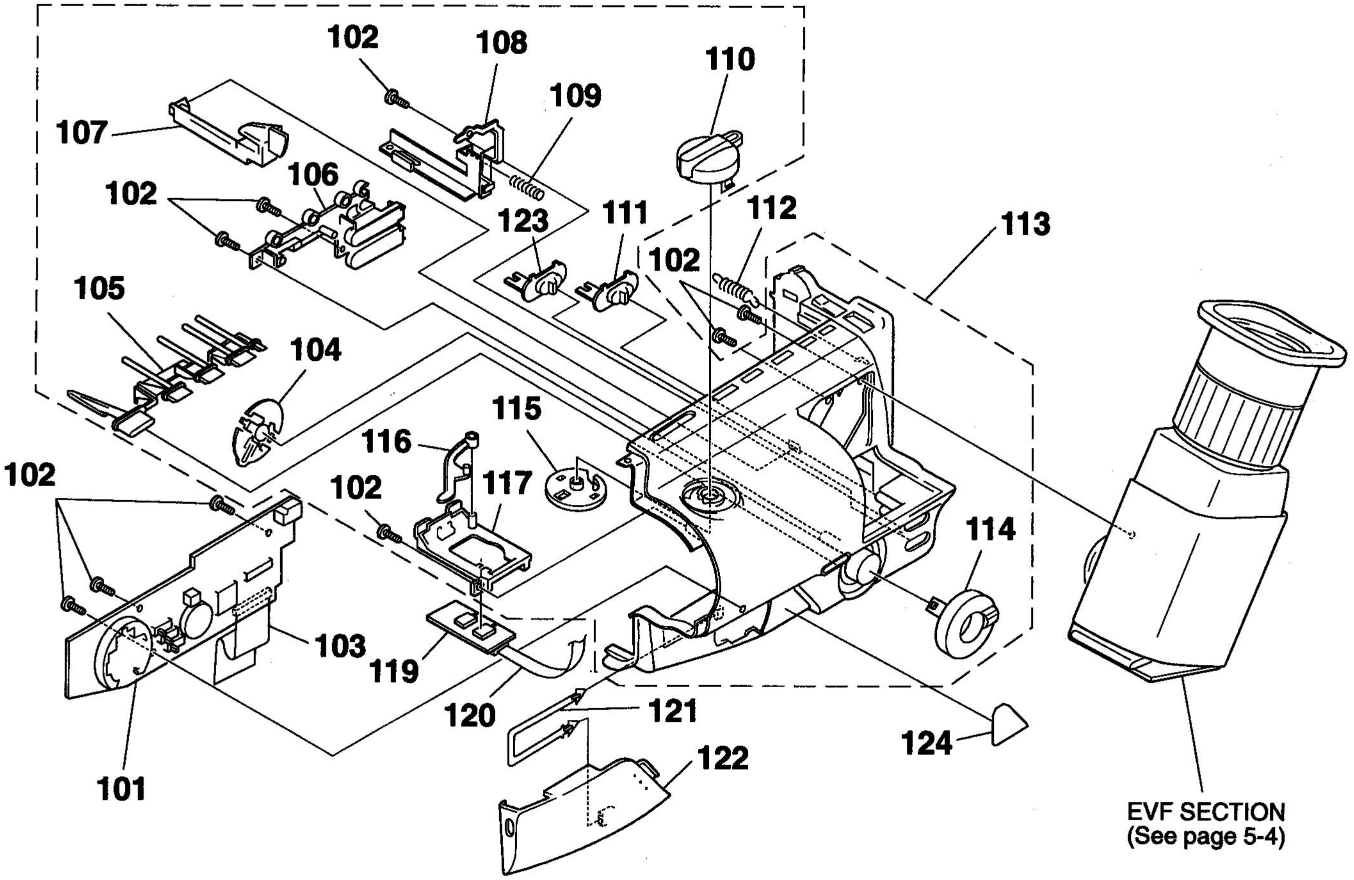
TR490/TR490PK MODEL

Ref. No.	Part No.	Description	Remarks
51	3-965-888-01	COVER, JACK	
52	3-736-807-01	BELT, GRIP	
53	X-3945-455-1	CABINET (L) ASSY(EXCEPT TR490/TR490PK)	
53	X-3945-896-1	CABINET (L) ASSY(TR490/TR490PK)	
54	3-965-844-01	BUTTON, S/S	
55	3-965-830-01	SPRING, COMPRESSION	
56	3-942-985-01	KNOB, STAND-BY	
57	3-965-870-01	PLATE, S/S JOINT	
58	3-965-869-01	HOLDER, KNOB	
59	3-965-860-01	GRILLE (M), MICROPHONE (EXCEPT TR490/TR490PK)	
59	3-968-574-01	GRILLE (S), MICROPHONE (TR490/TR490PK)	
60	X-3945-449-1	COVER ASSY, MICROPHONE (EXCEPT TR490/TR490PK)	
60	X-3945-898-1	COVER ASSY, MICROPHONE(TR490/TR490PK)	

Ref. No.	Part No.	Description	Remarks
61	1-542-259-11	MICROPHONE, CAP	
62	3-965-861-01	HOLDER, MICROPHONE	
63	X-3945-442-1	PANEL ASSY, F(TR54/TR64/TR440/TR440PK)	
63	X-3945-592-1	PANEL ASSY, F(TR74/TR84/TR94)	
63	X-3945-897-1	PANEL ASSY, F(TR490/TR490PK)	
64	A-7072-358-A	MA-238 BOARD, COMPLETE (EXCEPT TR490/TR490PK)	
64	A-7072-566-A	MA-238 BOARD, COMPLETE(TR490/TR490PK)	
65	3-719-601-01	SCREW (B2X5), TAPPING	
66	1-775-517-11	CABLE, FLEXIBLE FLAT 8P	
67	3-307-378-11	SPRING, TENSION	
68	3-967-293-01	SPRING, L COVER	
69	3-669-480-21	+ PTPWH 2	
70	3-736-364-01	SPRING	

5-1-3. CABINET (R) SECTION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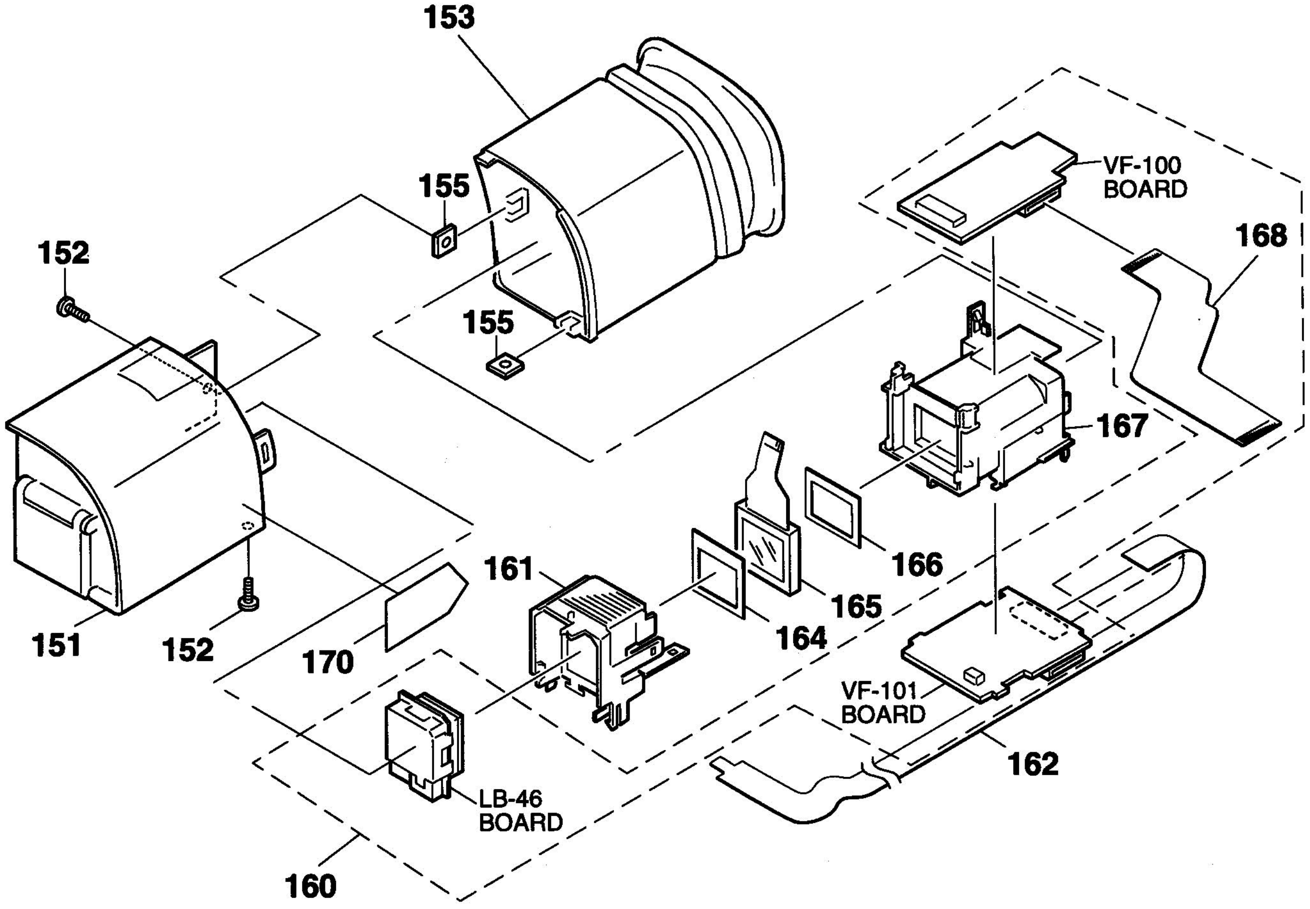
EVF SECTION
(See page 5-4)

Ref. No.	Part No.	Description	Remarks
101	A-7092-582-A	CF-40 BOARD, COMPLETE (TR54/TR64/TR440/TR440PK)	
101	A-7092-723-A	CF-40 BOARD, COMPLETE(TR490/TR490PK)	
101	A-7092-719-A	CF-40 BOARD, COMPLETE(TR84/TR94)	
101	A-7092-716-A	CF-40 BOARD, COMPLETE(TR74)	
102	3-719-601-01	SCREW (B2X5), TAPPING	
103	1-775-520-11	CABLE, FLEXIBLE FLAT 45P	
104	3-965-867-01	RETAINER, AE DIAL	
105	3-965-894-01	BUTTON, CF	
106	3-965-895-01	HOLDER, CF BUTTON	
107	3-965-879-01	SLIDER, BT	
108	3-965-878-01	HOLDER, BT	
109	3-965-846-01	SPRING, COMPRESSION	
110	X-3945-447-1	DIAL ASSY, POWER	
111	3-965-884-01	BUTTON (3), REC MODE	
112	4-602-490-00	SPRING, TENSION	
114	3-965-866-01	DIAL, AE	
115	3-965-865-01	DISK, POWER	
116	3-965-876-01	LEVER, LC	
117	3-965-877-01	HOLDER, PW	
119	A-7072-356-A	PW-108 BOARD, COMPLETE (EXCEPT TR490/TR490PK)	
119	A-7072-572-A	PW-108 BOARD, COMPLETE(TR490/TR490PK)	
120	1-775-519-11	CABLE, FLEXIBLE FLAT 4P	
121	3-965-842-01	HINGE, LITHIUM LID	
122	3-965-868-01	LID, LITHIUM	
123	3-968-243-01	BUTTON (2), HAND FORM MODE (TR84/TR94/TR490/TR490PK)	
124	3-965-829-31	PLATE, ORNAMENTAL, SWITCH(TR84/TR94)	
124	3-965-829-51	PLATE, ORNAMENTAL, SWITCH(TR490/TR490PK)	

5-1-4(1). EVF SECTION (SOLAR COLOR EVF MODEL) (EXCEPT TR54/TR64/TR84)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VF-100 BOARD
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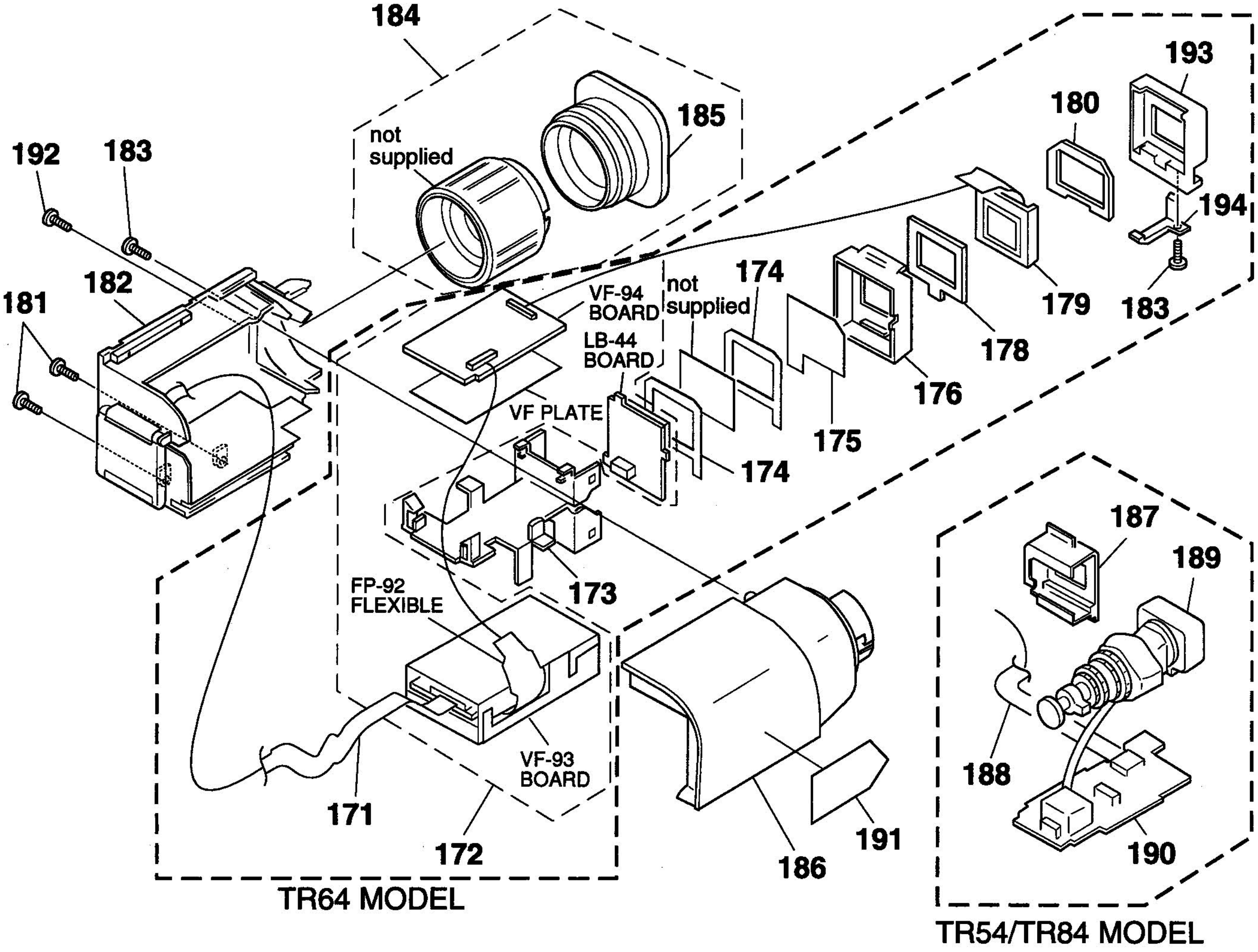
VF-101 BOARD
162
LB-46 BOARD
160

Ref. No.	Part No.	Description	Remarks
151	X-3945-971-1	CABINET (FRONT) ASSY, EVF	
152	3-719-381-01	SCREW (M2X4)	
153	X-3945-958-1	CABINET (REAR) ASSY, EVF	
155	3-718-233-01	NUT, PLATE	
160	A-7092-696-A	EVF COMPLETE, SOLAR (SERVICE)	
161	X-3945-983-1	HOLDER ASSY, PRISM	
162	1-660-438-11	FLEXIBLE (FP-425BOARD)	
* 164	3-969-924-01	CUSHION (Y), LCD	
165	8-753-015-20	LCX005BK-1	
* 166	3-960-302-01	CUSHION (1), LCD	
167	X-3945-959-1	LENS ASSY, VF	
168	1-656-480-11	FP-291 FLEXIBLE BOARD	
170	3-967-314-01	STICKER (SS), BODY (TR94)	

Note:	**Note:**
The components identified by matk ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

5-1-4(2). EVF SECTION (COLOR and B/W EVF MODEL)
(TR54/TR64/TR84)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VF-94 BOARD
not supplied
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LB-44 BOARD
179
183
178
VF PLATE
176
175
174
187
189
FP-92 FLEXIBLE
173
188
VF-93 BOARD
171
191
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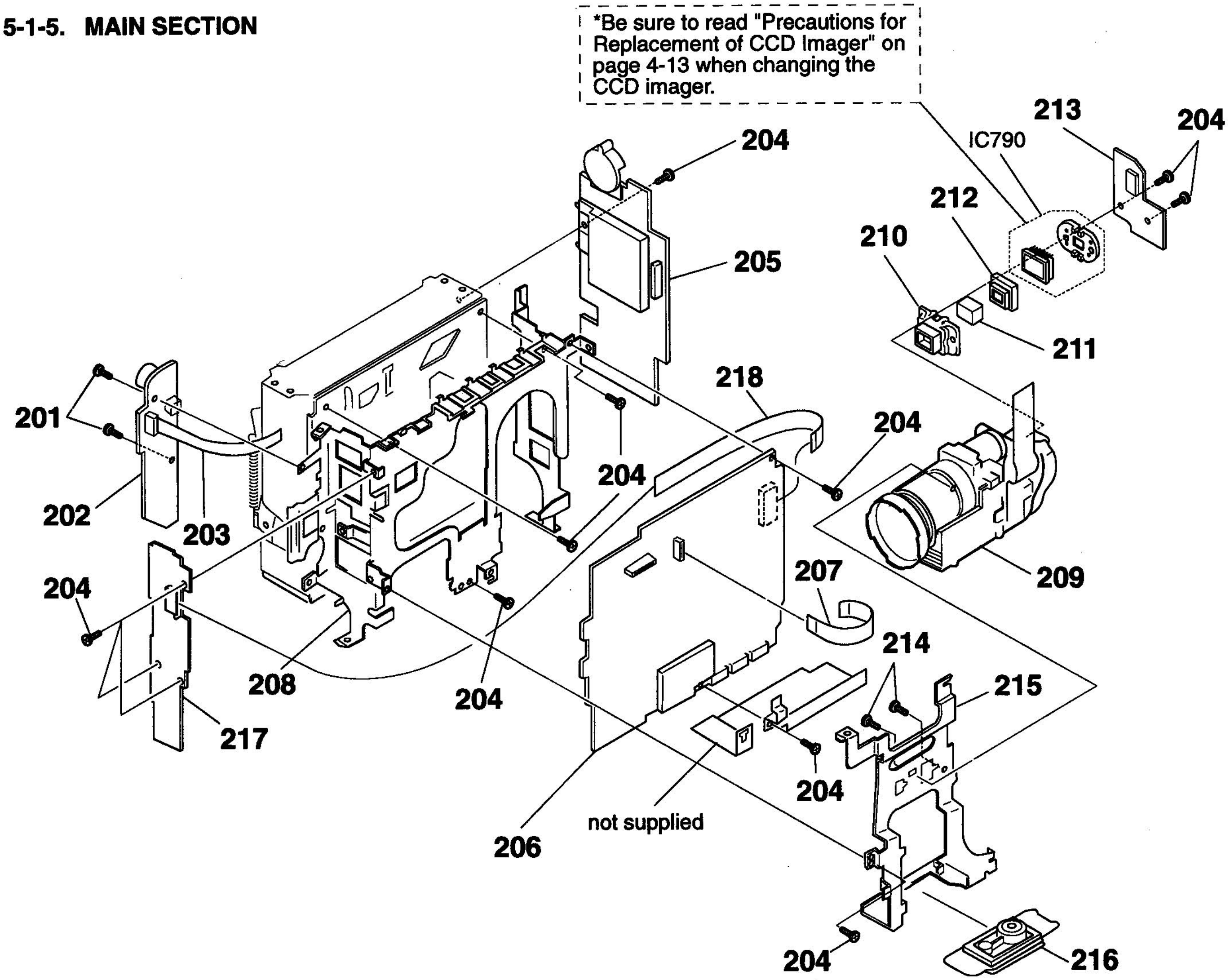
186
TR64 MODEL
TR54/TR84 MODEL

Ref. No.	Part No.	Description	Remarks
171	1-658-344-11	FP-282 BOARD (TR64)	
172	A-7092-688-A	COMPLETE PCB, EVF (TR64)	
173	3-966-393-01	HOLDER (C), LCD (TR64)	
* 174	3-958-967-01	CUSHION (3) (TR64)	
175	3-958-965-01	PLATE, CONDENCE, BL (TR64)	
176	3-966-395-01	COVER, BL (TR64)	
* 178	3-958-964-01	CUSHION (2) (TR64)	
179	8-753-015-20	LCX005BK-5 (TR64)	
* 180	3-958-963-01	CUSHION (1) (TR64)	
181	3-719-601-01	SCREW (B2X5), TAPPING	
182	X-3945-456-1	CABINET (L) ASSY, EVF	
183	3-948-339-01	SCREW, TAPPING	
184	X-3945-448-1	FINDER ASSY	
185	3-969-030-01	CUP (DM), EYE	
186	3-965-899-01	CABINET (R), EVF	
187	X-3945-445-1	COVER ASSY, CRT (TR54/84)	
188	1-657-866-11	FP-283 FLEXIBLE BOARD (TR54/84)	
⚠189	1-452-673-11	CRT ASSY (M01KXX90WB) (TR54/84)	
190	A-7072-362-A	VF-102 BOARD, COMPLETE (TR54/84)	
191	3-967-314-01	STICKER (SS), BODY (TR54/84)	
192	3-968-334-01	SCREW, F LOCK	
193	3-966-394-01	COVER (C), LCD (TR64)	
194	3-958-969-01	CHIP (LCD), TALLY (TR64)	

Note:	**Note:**
The components identified by matk ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

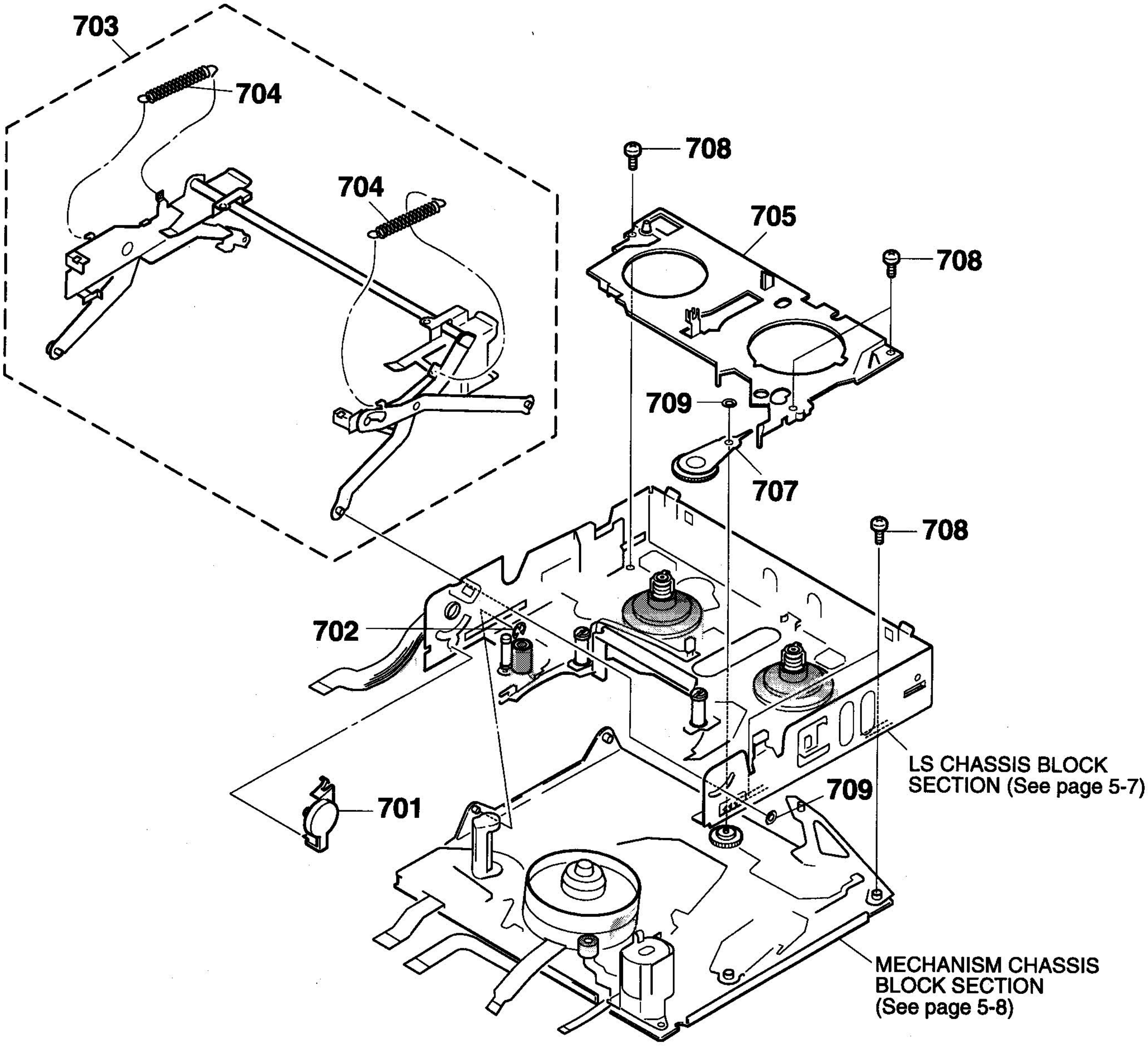
5-1-5. MAIN SECTION


*Be sure to read "Precautions for Replacement of CCD Imager" on page 4-13 when changing the CCD imager.

not supplied

Ref. No.	Part No.	Description	Remarks
201	3-962-826-01	SCREW (2X4)	
202	A-7072-353-A	JK-129 BOARD, COMPLETE (EXCEPT TR490/TR490PK)	
202	A-7072-484-A	JK-129 BOARD, COMPLETE(TR490/TR490PK)	
203	1-775-518-11	CABLE, FLEXIBLE FLAT 12P	
204	3-942-268-11	SCREW (P TIGHT 2X7.5)	
205	A-7092-575-A	DD-80 BOARD, COMPLETE(TR54/TR84)	
205	A-7092-619-A	DD-80 BOARD, COMPLETE (TR64/TR74/TR94/TR440/TR440PK)	
205	A-7092-779-A	DD-80 BOARD, COMPLETE(TR490/TR490PK)	
206	A-7092-574-A	VC-167 BOARD, COMPLETE(TR54)	
206	A-7092-618-A	VC-167 BOARD, COMPLETE (TR64/TR440/TR440PK/TR490/TR490PK)	
206	A-7092-715-A	VC-167 BOARD, COMPLETE(TR74)	
206	A-7092-713-A	VC-167 BOARD, COMPLETE(TR84)	
206	A-7092-718-A	VC-167 BOARD, COMPLETE(TR94)	
207	1-775-516-11	CABLE, FLEXIBLE FLAT 16P	
* 208	3-965-897-01	FRAME, MD	
209	1-547-739-21	LENS, ZOOM (VCL-5412WB)	
210	3-946-856-01	ADAPTOR (H), CCD FITTING	
211	1-547-558-21	FILTER BLOCK, OPTICAL(EXCEPT TR84/TR94)	
211	1-547-735-51	FILTER BLOCK, OPTICAL(TR84/TR94)	
212	3-946-857-01	RUBBER (S), SEAL(EXCEPT TR84/TR94)	
212	3-960-149-01	RUBBER (3), SEAL(TR84/TR94)	
213	A-7072-354-A	CD-139 BOARD, COMPLETE (TR54/TR64/TR74/TR440/TR440PK)	
213	A-7072-420-A	CD-139 BOARD, COMPLETE(TR84/TR94)	
213	A-7072-573-A	CD-139 BOARD, COMPLETE(TR490/TR490PK)	
214	3-947-268-01	2, +B TAPPIN P TAIT (TR64/TR440/TR440PK/TR490/TR490PK)	
214	3-947-268-11	2X7.5, +B TAPPIN P TAIT (TR54/TR74/TR84/TR94)	
* 215	3-965-898-01	FRAME, LENS	
216	3-965-871-01	SCREW (for TRIPOD)	
217	A-7072-422-A	TZ-3 BOARD, COMPLETE(TR84/TR94)	
217	A-7072-469-A	TZ-3 BOARD, COMPLETE (TR74/TR490/TR490PK)	
218	1-775-833-11	CABLE, FLEXIBLE FLAT 18P(TR490/TR490PK)	
IC790	A-7030-368-A	CCD BLOCK ASSY (ICX054AK-11) (CCD IMAGER)(EXCEPT TR84/TR94)	
IC790	A-7030-373-A	CCD BLOCK ASSY (ICX059AK-41) (CCD IMAGER)(TR84/TR94)	

5-1-6. CASSETTE COMPARTMENT BLOCK SECTION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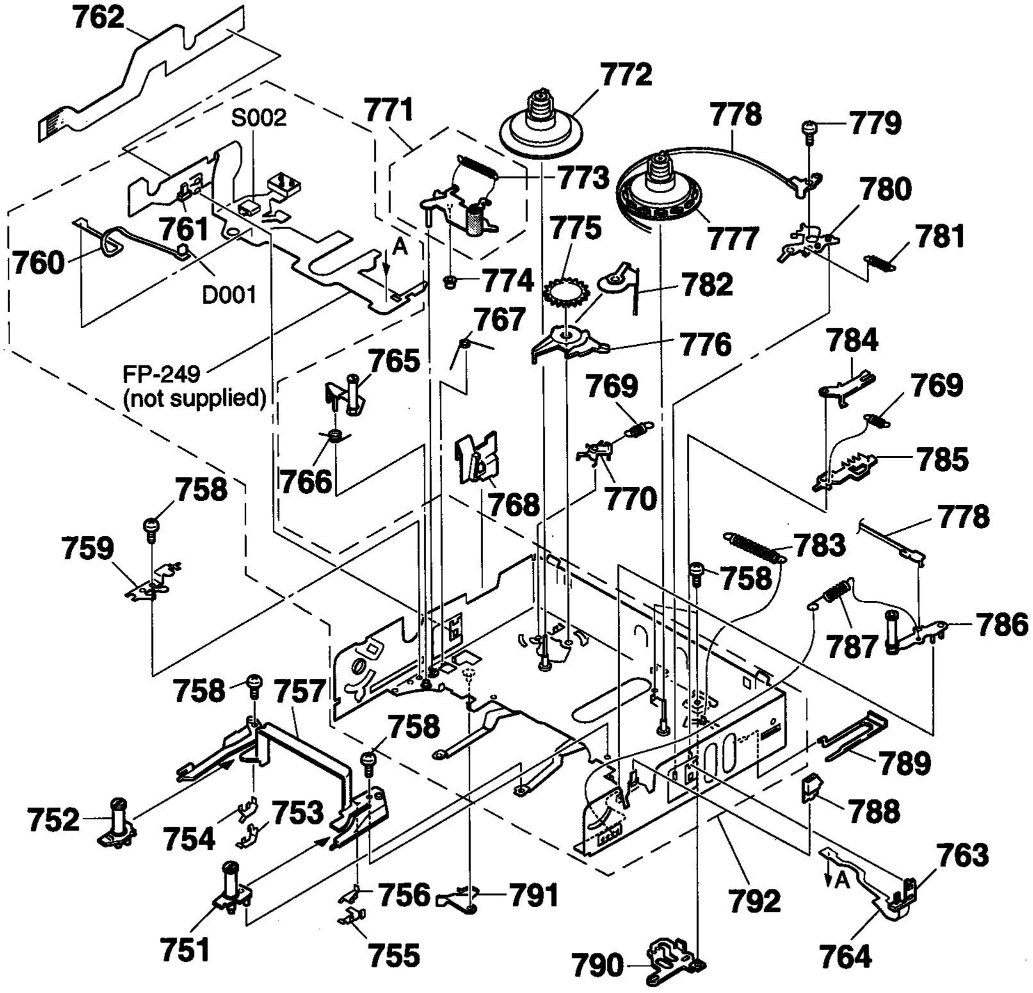
LS CHASSIS BLOCK SECTION (See page 5-7)
MECHANISM CHASSIS BLOCK SECTION (See page 5-8)

Ref. No.	Part No.	Description	Remarks
701	A-7040-421-A	DAMPER ASSY	
702	7-624-102-04	STOP RING 1.5, TYPE -E	
703	X-3945-400-1	CASSETTE COMPARTMENT ASSY	
704	3-965-587-01	SPRING, TENSION	

Ref. No.	Part No.	Description	Remarks
705	3-965-584-01	RETAINER, GOOSENECK	
707	X-3945-399-1	GEAR ASSY, GOOSENECK	
708	3-947-503-01	SCREW (M1.4X2.5)	
709	3-331-007-21	WASHER	

5-1-7. LS CHASSIS BLOCK SECTION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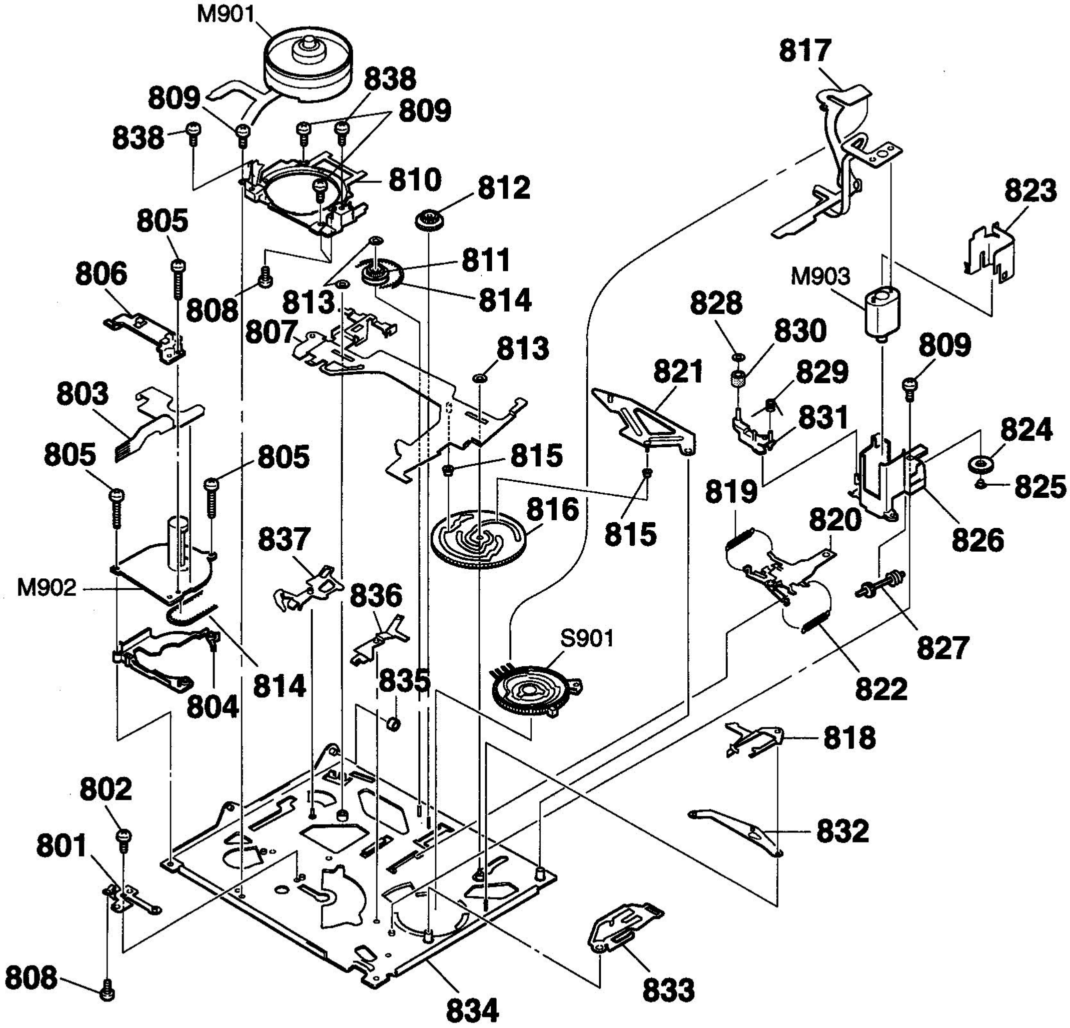
Ref. No.	Part No.	Description	Remarks
751	A-7040-419-A	BASE (S) BLOCK ASSY, GUIDE	
752	A-7040-418-A	BASE (T) BLOCK ASSY, GUIDE	
753	3-965-559-01	STOPPER (T)	
754	3-965-557-01	STOPPER (T), GB	
755	3-965-558-01	STOPPER (S)	
756	3-965-556-01	STOPPER (S), GB	
757	3-965-553-01	RAIL, GUIDE	
758	3-947-503-01	SCREW (M1.4X2.5)	
759	3-965-573-01	RETAINER, TG4	
760	1-658-213-11	FP-355 FLEXIBLE BOARD	
761	3-965-552-01	HOLDER (T), SENSOR	
762	1-657-786-11	FP-221 FLEXIBLE BOARD	
763	3-965-551-01	HOLDER (S), SENSOR	
764	1-658-214-11	FP-356 FLEXIBLE BOARD	
765	A-7040-417-A	ARM BLOCK ASSY, TG4	
766	3-965-574-01	SPRING, TORSION	
767	3-965-575-01	SPRING (PINCH), TORSION	
768	3-965-568-01	GUIDE, LOCK	
769	3-965-562-01	SPRING (RATCHET), TENSION	
770	3-965-581-01	RATCHET, T	
771	X-3945-394-1	ARM ASSY, PINCH	
772	X-3945-398-1	DECK ASSY, REEL, T	

Ref. No.	Part No.	Description	Remarks
773	3-965-648-01	SPRING (PINCH), TENSION	
774	3-965-579-01	ROLLER, PINCH PRESS	
775	3-965-563-01	GEAR, T SOFT	
776	3-965-565-01	CLAW, T SOFT	
777	X-3945-397-1	DECK ASSY, REEL, S	
778	X-3945-396-1	BAND ASSY, TENSION REGULATOR	
779	3-945-756-01	SCREW (M1.4X3)	
780	3-965-583-01	ARM, RVS	
781	3-965-580-01	SPRING, TENSION	
782	3-966-384-01	SPRING, T SOFT	
783	3-965-578-01	SPRING, TENSION	
784	3-965-560-01	RATCHET, S	
785	3-965-561-01	PLATE, RELEASE, S RATCHET	
786	X-3945-395-1	ARM ASSY, TG1	
787	3-965-576-01	SPRING (TG1), TENSION	
788	3-965-567-01	LID OPEN	
789	3-965-566-01	COVER, LS GUIDE	
* 790	3-965-577-01	PLATE, CAM, LS	
791	3-965-569-01	ARM, EJ	
792	A-7040-427-A	CHASSIS (S1) ASSY, LS	
D001	8-719-988-42	DIODE GL453S	
S002	1-572-688-11	SWITCH, PUSH (1 KEY) (C.C.LOCK)	

5-1-8. MECHANISM CHASSIS BLOCK SECTION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S901
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Ref. No.	Part No.	Description	Remarks
801	3-965-525-01	GROUND, SHAFT	
802	3-965-550-01	SCREW (M1.7X1.4)	
803	1-657-785-11	FP-248 FLEXIBLE BOARD	
804	3-965-545-01	SPACER, CAPSTAN	
805	3-965-549-01	SCREW (M1.4 X 6.5)	
806	3-966-349-01	HOLDER, FLEXIBLE	
807	X-3945-387-1	SLIDER ASSY, M	
808	3-965-588-01	SCREW (M1.4)	
809	3-947-503-01	SCREW (M1.4X2.5)	
810	A-7040-416-A	BASE BLOCK ASSY, DRUM	
811	3-965-527-01	GEAR, CHANGE	
812	3-965-544-01	GEAR, RELAY	
813	3-331-007-21	WASHER	
814	3-965-546-01	BELT, TIMING	
815	3-965-533-01	ROLLER, LS	
816	3-965-528-01	GEAR, CAM	
817	1-657-784-11	FP-220 FLEXIBLE BOARD	
818	3-965-529-01	PLATE, REGULATOR, TENSION	
819	3-965-536-01	SPRING, TENSION (BLACK)	
820	X-3945-388-1	SLIDER ASSY, GL	
821	3-965-532-01	ARM, LS	
822	3-965-535-01	SPRING, TENSION (SILVER)	
823	3-965-542-01	SHIELD, MOTOR	
824	3-965-539-01	GEAR (A)	
825	3-965-538-01	SLEEVE, MOTOR HOLDER	
826	3-965-540-01	HOLDER, MOTOR	
827	3-965-541-01	SHAFT, WORM	
828	3-321-393-01	WASHER, STOPPER	
829	3-965-724-01	SPRING, TORSION	
830	A-7040-423-A	ROLLER BLOCK ASSY, HC	
831	X-3945-407-1	ARM ASSY, HC ROLLER	
832	3-965-531-01	ARM, GL	
833	3-965-530-01	PLATE (2), REGULATOR, TENSION	
834	X-3945-386-1	CHASSIS ASSY, MECHANICAL	
835	3-965-526-01	ROLLER, LS GUIDE	
836	3-965-547-01	ARM, HC DRIVING	
837	3-965-534-01	PLATE, PRESS, PINCH	
838	3-966-819-01	SCREW +P 1.4X3	
M901	A-7048-804-A	DRUM BLOCK ASSY(DGH-0C1A-R)	
M902	8-835-531-01	MOTOR, DC SCE-0601A (CAPSTAN)	
M903	X-3945-401-1	MOTOR ASSY, DC (LOADING)	
S901	1-762-436-11	SWITCH, ROTARY (ENCODER)	

5-2. ELECTRICAL PARTS LIST

NOTE:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifie.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be defferent from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service.
  Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA...: μA... , uPA... , μPA... ,
  uPB... , μ PB... , uPC... , μPC... ,
  uPD..., μPD...
- CAPACITORS:
  uF: μF
- COILS
  uH: μH

Ref. No.	Part No.	Description	Remarks
	A-7072-354-A	CD-139 BOARD, COMPLETE	
		************************	
			(TR54/TR64/TR74/TR440/TR440PK)
	A-7072-420-A	CD-139 BOARD, COMPLETE (TR84/TR94)	
		************************	
	A-7072-573-A	CD-139 BOARD, COMPLETE (TR490/TR490PK)	
		************************	
			(Ref.No.2,000 Series)
		< CAPACITOR >	
C790	1-126-603-11	ELECT CHIP 4.7uF 20% 35V	
C791	1-164-346-11	CERAMIC CHIP 1uF 16V	
C792	1-126-607-11	ELECT CHIP 47uF 20% 4V	
C793	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C794	1-126-603-11	ELECT CHIP 4.7uF 20% 35V	
C795	1-162-919-11	CERAMIC CHIP 22PF 5% 50V	(EXCEPT TR84/TR94)
		< CONNECTOR >	
CN790	1-691-354-21	CONNECTOR, FFC/FPC (ZIF) 16P	
		< IC >	
IC790	A-7030-368-A	CCD BLOCK ASSY(ICX054AK-11)(CCD IMAGER)	(EXCEPT TR84/TR94)
IC790	A-7030-373-A	CCD BLOCK ASSY(ICX059AK-41)(CCD IMAGER)	(TR84/TR94)
		< COIL >	
L790	1-412-963-11	INDUCTOR 100uH	
		< TRANSISTOR >	
Q790	8-729-117-73	TRANSISTOR 2SC4178-F14	
Q791	8-729-232-86	TRANSISTOR 2SK1875-BL/V	
		< RESISTOR >	
R791	1-216-839-11	METAL CHIP 33K 5% 1/16W	(EXCEPT TR84/TR94)
R791	1-216-840-11	METAL CHIP 39K 5% 1/16W	(TR84/TR94)
R792	1-216-819-11	METAL CHIP 680 5% 1/16W	(EXCEPT TR84/TR94)
R792	1-216-820-11	METAL CHIP 820 5% 1/16W	(TR84/TR94)
R793	1-216-849-11	METAL CHIP 220K 5% 1/16W	(EXCEPT TR84/TR94)
R793	1-218-895-11	METAL CHIP 100K 0.50% 1/16W	(TR84/TR94)
R794	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R795	1-216-809-11	METAL CHIP 100 5% 1/16W	
R796	1-216-833-11	METAL CHIP 10K 5% 1/16W	

Ref. No.	Part No.	Description	Remarks
	A-7092-582-A	CF-40 BOARD,COMPLETE	
		********************	
			(TR54/TR64/TR440/TR440PK)
	A-7092-723-A	CF-40 BOARD,COMPLETE(TR490/TR490PK)	
		********************	
	A-7092-719-A	CF-40 BOARD,COMPLETE(TR84/TR94)	
		********************	
	A-7092-716-A	CF-40 BOARD,COMPLETECF(TR74)	
		********************	
			(Ref.No.2,000 Series)
	3-831-441-XX	CUSHION (5)	
		< BUZZER >	
BU480	1-529-107-11	BUZZER, PIEZOELECTRIC	
		< CAPACITOR >	
C300	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C301	1-162-919-11	CERAMIC CHIP 22PF 5% 50V	
C302	1-162-919-11	CERAMIC CHIP 22PF 5% 50V	
C303	1-104-847-11	TANTAL. CHIP 22uF 20% 4V	
C304	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C305	1-162-968-11	CERAMIC CHIP 0.0047uF 10% 50V	
C306	1-164-156-11	CERAMIC CHIP 0.1uF 25V	(TR54/TR64/TR440/TR440PK/TR490/TR490PK)
C306	1-164-360-11	CERAMIC CHIP 0.1uF 16V	(TR74/TR84/TR94)
C308	1-104-847-11	TANTAL. CHIP 22uF 20% 4V	
C310	1-164-156-11	CERAMIC CHIP 0.1uF 25V	(TR54/TR64/TR440/TR440PK/TR490/TR490PK)
C310	1-164-360-11	CERAMIC CHIP 0.1uF 16V	(TR74/TR84/TR94)
C311	1-164-156-11	CERAMIC CHIP 0.1uF 25V	(TR54/TR64/TR440/TR440PK/TR490/TR490PK)

Ref. No.	Part No.	Description			Remarks
C311	1-164-360-11	CERAMIC CHIP	0.1uF		16V (TR74/TR84/TR94)
C312	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C313	1-164-360-11	CERAMIC CHIP	0.1uF		16V (TR74/TR84/TR94)
C313	1-164-156-11	CERAMIC CHIP	0.1uF		25V (TR490/TR490PK)
C314	1-135-091-91	TANTAL. CHIP	1uF	20%	16V (TR74/TR84/TR94/TR490/TR490PK)
C315	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C316	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C317	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C318	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C319	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C320	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C321	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C323	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C325	1-104-850-11	TANTAL. CHIP	6.8uF	20%	10V
C326	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C327	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C328	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C336	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (TR490/TR490PK)

< CONNECTOR >

Ref. No.	Part No.	Description
CN480	1-774-054-21	CONNECTOR, FFC/FPC (ZIF) 45P
CN481	1-691-346-11	CONNECTOR, FFC/FPC (ZIF) 8P
CN482	1-764-703-11	CONNECTOR, FFC/FPC (LIF) 4P

< DIODE >

Ref. No.	Part No.	Description		Remarks
D300	8-719-404-49	DIODE	MA111	
D301	8-719-027-50	DIODE	MA142WK	
D303	8-719-420-14	DIODE	MA8082-M	
D304	8-719-420-14	DIODE	MA8082-M	
D309	8-719-039-99	DIODE	UMZ8.2T-T106	(TR490/TR490PK)
D310	8-719-039-99	DIODE	UMZ8.2T-T106	
D312	8-719-420-14	DIODE	MA8082-M	
D314	8-719-404-49	DIODE	MA111	(TR74/TR84/TR94/TR490/TR490PK)
D315	8-719-404-49	DIODE	MA111	(TR74/TR84/TR94/TR490/TR490PK)
⚠D316	8-719-421-27	DIODE	MA728	
D317	8-719-404-49	DIODE	MA111	
D318	8-719-404-49	DIODE	MA111	
D321	8-719-420-14	DIODE	MA8082-M	
D323	8-719-404-49	DIODE	MA111	
D324	8-719-420-14	DIODE	MA8082-M	
D325	8-719-420-14	DIODE	MA8082-M	
D326	8-719-420-14	DIODE	MA8082-M	
D327	8-719-420-14	DIODE	MA8082-M	
D328	8-719-420-14	DIODE	MA8082-M	
D480	8-719-951-20	LED	BR1102W	

< FILTER >

Ref. No.	Part No.	Description
FL300	1-411-527-21	COIL, OSC

< HOLDER >

Ref. No.	Part No.	Description
HL480	1-550-104-11	HOLDER, BATTERY

< IC >

Ref. No.	Part No.	Description	
IC301	8-759-298-10	IC	S-8423NFS-T2
IC302	8-759-059-05	IC	TL1596CPW
IC303	8-759-364-02	IC	MB89082PFV-G-105-BND

< JACK >

Ref. No.	Part No.	Description	Remarks
J480	1-565-276-21	JACK, ULTRA SMALL 1P (LANC)	
J481	1-569-809-11	JACK (SMALL TYPE) (HEADPHONE)	(TR490/TR490PK)

< COIL >

Ref. No.	Part No.	Description	Remarks
L300	1-414-078-11	INDUCTOR 10uH	
L301	1-216-295-11	RESISTOR 0	(TR490/TR490PK)
L302	1-216-295-11	RESISTOR 0	

< IC LINK >

Ref. No.	Part No.	Description
⚠PS301	1-576-122-21	LINK, IC

< TRANSISTOR >

Ref. No.	Part No.	Description		Remarks
Q301	8-729-823-16	TRANSISTOR	2SC4555-5.6.7	(TR74/TR84/TR94/TR490/TR490PK)
Q302	8-729-032-00	TRANSISTOR	2SJ381-TD	(TR74/TR84/TR94/TR490/TR490PK)
Q303	8-729-402-81	TRANSISTOR	XN4501	(TR74/TR84/TR94/TR490/TR490PK)
Q304	8-729-015-76	TRANSISTOR	UN5211-TX	(TR74/TR84/TR94/TR490/TR490PK)
Q305	8-729-015-76	TRANSISTOR	UN5211-TX	

< RESISTOR >

Ref. No.	Part No.	Description			
R300	1-216-853-11	METAL CHIP	470K	5%	1/16W
R301	1-216-853-11	METAL CHIP	470K	5%	1/16W
R303	1-216-853-11	METAL CHIP	470K	5%	1/16W
R304	1-216-817-11	METAL CHIP	470	5%	1/16W
R305	1-216-864-11	METAL CHIP	0	5%	1/16W
R306	1-216-801-11	METAL CHIP	22	5%	1/16W
R307	1-216-853-11	METAL CHIP	470K	5%	1/16W
R308	1-216-853-11	METAL CHIP	470K	5%	1/16W
R309	1-216-853-11	METAL CHIP	470K	5%	1/16W
R310	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R311	1-216-841-11	METAL CHIP	47K	5%	1/16W
R312	1-216-821-11	METAL CHIP	1K	5%	1/16W
R313	1-216-821-11	METAL CHIP	1K	5%	1/16W
R314	1-216-821-11	METAL CHIP	1K	5%	1/16W
R315	1-216-821-11	METAL CHIP	1K	5%	1/16W
R316	1-216-821-11	METAL CHIP	1K	5%	1/16W
R317	1-216-821-11	METAL CHIP	1K	5%	1/16W

Note:	**Note:**
The components identified by matk ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

Ref. No.	Part No.	Description	Remarks
R318	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R319	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R320	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R321	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R322	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R323	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R324	1-216-864-11	METAL CHIP 0 5% 1/16W	
R325	1-216-864-11	METAL CHIP 0 5% 1/16W	
R326	1-216-853-11	METAL CHIP 470K 5% 1/16W	
R327	1-216-864-11	METAL CHIP 0 5% 1/16W	
R331	1-216-864-11	METAL CHIP 0 5% 1/16W	
R332	1-216-864-11	METAL CHIP 0 5% 1/16W	(TR54/TR64/TR440/TR440PK)
R333	1-216-853-11	METAL CHIP 470K 5% 1/16W	
R334	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R335	1-216-817-11	METAL CHIP 470 5% 1/16W	
R336	1-216-833-11	METAL CHIP 10K 5% 1/16W	(TR74/TR84/TR94/TR490/TR490PK)
R337	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	(TR74/TR84/TR94/TR490/TR490PK)
R338	1-216-857-11	METAL CHIP 1M 5% 1/16W	(TR74/TR84/TR94/TR490/TR490PK)
R339	1-216-833-11	METAL CHIP 10K 5% 1/16W	(TR490/TR490PK)
R340	1-216-833-11	METAL CHIP 10K 5% 1/16W	(TR490/TR490PK)
R341	1-216-853-11	METAL CHIP 470K 5% 1/16W	
R342	1-216-853-11	METAL CHIP 470K 5% 1/16W	
R343	1-216-853-11	METAL CHIP 470K 5% 1/16W	
R345	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R346	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R347	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R348	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R350	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R351	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R352	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R353	1-216-864-11	METAL CHIP 0 5% 1/16W	
R354	1-216-864-11	METAL CHIP 0 5% 1/16W	
R355	1-216-864-11	METAL CHIP 0 5% 1/16W	
R356	1-216-864-11	METAL CHIP 0 5% 1/16W	
R357	1-216-831-11	METAL CHIP 6.8K 5% 1/16W	
R358	1-216-864-11	METAL CHIP 0 5% 1/16W	
R359	1-216-805-11	METAL CHIP 47 5% 1/16W	
R360	1-216-864-11	METAL CHIP 0 5% 1/16W	(TR84/TR94)
R361	1-216-864-11	METAL CHIP 0 5% 1/16W	(TR84/TR94)
R362	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R363	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R364	1-216-864-11	METAL CHIP 0 5% 1/16W	
R365	1-216-864-11	METAL CHIP 0 5% 1/16W	(TR490/TR490PK)
R370	1-216-864-11	METAL CHIP 0 5% 1/16W	
R371	1-216-864-11	METAL CHIP 0 5% 1/16W	
R372	1-216-864-11	METAL CHIP 0 5% 1/16W	
R373	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R374	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R375	1-216-853-11	METAL CHIP 470K 5% 1/16W	
R376	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R377	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R378	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R379	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R380	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R381	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R384	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R386	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R387	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R389	1-216-849-11	METAL CHIP 220K 5% 1/16W	
R390	1-216-849-11	METAL CHIP 220K 5% 1/16W	
R391	1-216-821-11	METAL CHIP 1K 5% 1/16W	(TR74/TR84/TR94)
R392	1-216-826-11	METAL CHIP 2.7K 5% 1/16W	
R393	1-216-809-11	METAL CHIP 100 5% 1/16W	
R394	1-218-290-11	METAL GLAZE 6.2K 5% 1/16W	
R395	1-216-833-11	METAL CHIP 10K 5% 1/16W	(TR84/TR94/TR490/TR490PK)
R396	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R397	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R398	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R399	1-216-851-11	METAL CHIP 330K 5% 1/16W	
R490	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R491	1-216-864-11	METAL CHIP 0 5% 1/16W	(TR490/TR490PK)
R492	1-216-864-11	METAL CHIP 0 5% 1/16W	
R493	1-216-864-11	METAL CHIP 0 5% 1/16W	
R494	1-216-864-11	METAL CHIP 0 5% 1/16W	
R495	1-216-864-11	METAL CHIP 0 5% 1/16W	
R496	1-216-797-11	METAL CHIP 10 5% 1/16W	
R497	1-216-864-11	METAL CHIP 0 5% 1/16W	
R499	1-216-836-11	METAL CHIP 18K 5% 1/16W	

< SWITCH >

Ref. No.	Part No.	Description	Remarks
S300	1-553-977-71	SWITCH, SLIDE (D ZOOM)	(TR74/TR84/TR94/TR490/TR490PK)
S301	1-762-333-21	SWITCH, TACTILE (TITLE)	
S480	1-762-333-21	SWITCH, TACTILE (DATE(+))	
S481	1-762-333-21	SWITCH, TACTILE (TIME(NEXT))	
S482	1-762-333-21	SWITCH, TACTILE (COUNTER RESET)	
S483	1-553-977-71	SWITCH, SLIDE (REC MODE)	
S484	1-762-333-21	SWITCH, TACTILE (BACK LIGHT)	
S485	1-570-113-11	SWITCH, SLIDE (START/STOP MODE)	
S486	1-570-397-11	SWITCH, SLIDE (STEDY SHOT)	(TR84/TR94)
S486	1-570-113-11	SWITCH, SLIDE (WIDE TV)	(TR490/TR490PK)
S487	1-553-977-71	SWITCH, SLIDE (COMMANDER)	
S488	1-553-977-71	SWITCH, SLIDE (BEEP)	
S489	1-762-442-21	SWITCH, ROTARY (PROGRAM AE)	

< VIBRATOR >

Ref. No.	Part No.	Description	Remarks
X302	1-579-463-11	VIBRATOR, CRYSTAL 32KHz	
XTL301	1-579-369-21	VIBRATOR 10MHz	

Ref. No.	Part No.	Description	Remarks
	A-7092-575-A	DD-80 BOARD, COMPLETE (TR54/TR84) **********************	
	A-7092-619-A	DD-80 BOARD, COMPLETE **********************	(TR64/TR74/TR94/TR440/TR440PK)
	A-7092-779-A	DD-80 BOARD, COMPLETE (TR490/TR490PK) **********************	

(Ref.No.1,000 Series)

< CAPACITOR >

Ref. No.	Part No.	Description				Remarks
C001	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C002	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C003	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C004	1-162-957-11	CERAMIC CHIP	220PF	5%	50V	
C005	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V	
C006	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	(TR54/TR84)
C006	1-162-962-11	CERAMIC CHIP	470PF	10%	50V	(EXCEPT TR54/TR84)
C007	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	
C008	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	
C009	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V	
C010	1-128-004-11	ELECT CHIP	10uF	20%	16V	
C011	1-128-004-11	ELECT CHIP	10uF	20%	16V	
C012	1-128-004-11	ELECT CHIP	10uF	20%	16V	
C013	1-128-065-11	ELECT	68uF	20%	10V	
C014	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V	
C016	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	
C018	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	
C019	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	
C022	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	
C023	1-128-004-11	ELECT CHIP	10uF	20%	16V	(EXCEPT TR54/TR84)
C024	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	
C025	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	
C026	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V	
C027	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V	
C028	1-165-178-11	CERAMIC CHIP	6.8uF		16V	
C029	1-165-178-11	CERAMIC CHIP	6.8uF		16V	
C030	1-165-178-11	CERAMIC CHIP	6.8uF		16V	
C031	1-115-170-11	TANTALUM	4.7uF	20%	10V	
C032	1-115-170-11	TANTALUM	4.7uF	20%	10V	
C033	1-115-169-11	TANTALUM	10uF	20%	6.3V	
C034	1-115-170-11	TANTALUM	4.7uF	20%	10V	
C035	1-164-505-11	CERAMIC CHIP	2.2uF		16V	(EXCEPT TR490/TR490PK)
C035	1-107-682-11	CERAMIC CHIP	1uF	10%	16V	(TR490/TR490PK)
C036	1-115-169-11	TANTALUM	10uF	20%	6.3V	
C037	1-164-505-11	CERAMIC CHIP	2.2uF		16V	(EXCEPT TR490/TR490PK)
C037	1-107-682-11	CERAMIC CHIP	1uF	10%	16V	(TR490/TR490PK)
C038	1-128-004-11	ELECT CHIP	10uF	20%	16V	
C039	1-128-004-11	ELECT CHIP	10uF	20%	16V	
C040	1-128-004-11	ELECT CHIP	10uF	20%	16V	
C041	1-128-004-11	ELECT CHIP	10uF	20%	16V	
C042	1-128-004-11	ELECT CHIP	10uF	20%	16V	
C043	1-107-682-11	CERAMIC CHIP	1uF	10%	16V	
C044	1-128-004-11	ELECT CHIP	10uF	20%	16V	
C045	1-128-006-11	ELECT CHIP	4.7uF	20%	25V	
C046	1-128-006-11	ELECT CHIP	4.7uF	20%	25V	
C047	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	
C048	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	

< CONNECTOR >

Ref. No.	Part No.	Description
* CN003	1-691-935-11	CONNECTOR, BOARD TO BOARD 38P

< DIODE >

Ref. No.	Part No.	Description
D001	8-719-989-33	DIODE FC806
D002	8-719-420-14	DIODE MA8082-M

< FUSE >

Ref. No.	Part No.	Description
⚠F002	1-533-483-11	FUSE (SMD) 1.6A
⚠F003	1-533-483-11	FUSE (SMD) 1.6A
⚠F004	1-533-483-11	FUSE (SMD) 1.6A

< IC >

Ref. No.	Part No.	Description
IC001	8-759-350-29	IC SN104213PM-T6

< JACK >

Ref. No.	Part No.	Description
J001	1-537-241-11	TERMINAL BOARD (BATTERY)

< COIL >

Ref. No.	Part No.	Description	Remarks
L001	1-411-460-21	COEL, CHOKE 10uH	(EXCEPT TR54/TR84)
L002	1-411-460-21	COEL, CHOKE 10uH	
L003	1-411-460-21	COEL, CHOKE 10uH	
L004	1-411-460-21	COEL, CHOKE 10uH	
L005	1-409-533-11	COIL, CHOKE 47uH	
L006	1-409-533-11	COIL, CHOKE 47uH	
L007	1-409-531-11	COIL, CHOKE 22uH	
L008	1-409-533-11	COIL, CHOKE 47uH	
L009	1-409-531-11	COIL, CHOKE 22uH	
L010	1-412-056-11	INDUCTOR CHIP 4.7uH	
L011	1-412-056-11	INDUCTOR CHIP 4.7uH	
L012	1-412-056-11	INDUCTOR CHIP 4.7uH	
L013	1-412-056-11	INDUCTOR CHIP 4.7uH	
L014	1-412-066-21	INDUCTOR CHIP 220uH	(TR54/TR84)
L014	1-412-064-11	INDUCTOR CHIP 100uH	(EXCEPT TR54/TR84)

Note:	Note:
The components identified by matk ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

Ref. No.	Part No.	Description	Remarks
L015	1-412-066-21	INDUCTOR CHIP 220uH	(TR54/TR84)
L015	1-412-064-11	INDUCTOR CHIP 100uH	(EXCEPT TR54/TR84)
L016	1-412-056-11	INDUCTOR CHIP 4.7uH	
L017	1-412-056-11	INDUCTOR CHIP 4.7uH	
L018	1-412-056-11	INDUCTOR CHIP 4.7uH	
		< TRANSISTOR >	
Q001	8-729-033-14	TRANSISTOR FP107-TL	
Q002	8-729-033-14	TRANSISTOR FP107-TL	
Q003	8-729-804-41	TRANSISTOR 2SB1122-S	
Q004	8-729-033-14	TRANSISTOR FP107-TL	
Q005	8-729-033-14	TRANSISTOR FP107-TL	
Q006	8-729-033-14	TRANSISTOR FP107-TL	
Q007	8-729-030-75	TRANSISTOR 2SK2316-TD	
Q008	8-729-402-42	TRANSISTOR UN5213	
		< RESISTOR >	
R001	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R002	1-216-835-11	METAL CHIP 15K 5% 1/16W	
R003	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R004	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	(TR54/TR84)
R004	1-216-835-11	METAL CHIP 15K 5% 1/16W	(EXCEPT TR54/TR84)
R005	1-216-839-11	METAL CHIP 33K 5% 1/16W	
R006	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R007	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R008	1-216-813-11	METAL CHIP 220 5% 1/16W	
R009	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R010	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R014	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R015	1-216-819-11	METAL CHIP 680 5% 1/16W	
R016	1-216-864-11	METAL CHIP 0 5% 1/16W	
R017	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R018	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R019	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R020	1-216-835-11	METAL CHIP 15K 5% 1/16W	
R021	1-216-839-11	METAL CHIP 33K 5% 1/16W	
R022	1-216-831-11	METAL CHIP 6.8K 5% 1/16W	
R023	1-216-797-11	METAL CHIP 10 5% 1/16W	
R024	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R025	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R026	1-216-864-11	METAL CHIP 0 5% 1/16W	(TR54/TR84)
R027	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R033	1-216-833-11	METAL CHIP 10K 5% 1/16W	
		< SWITCH >	
S001	1-572-688-11	SWITCH, PUSH (1 KEY) (START/STOP)	
S002	1-572-467-21	SWITCH, PUSH (1 KEY) (EJECT)	
S003	1-762-441-11	SWITCH, ROTARY (ZOOM SW)	
S004	1-572-688-11	SWITCH, PUSH (1 KEY) (STANDBY)	
		< TRANSFORMER >	
T001	1-429-164-21	TRANSFORMER, DC/DC CONVERTER	(TR54/TR84)
T001	1-429-225-21	TRANSFORMER, DC/DC CONVERTER	(EXCEPT TR54/TR84)

Ref. No.	Part No.	Description	Remarks
		FP-249 BOARD ************	
			(Ref.No.5,000 Series)
	1-658-214-11	FP-356 FLEXIBLE BOARD	
	3-965-551-01	HOLDER (S), SENSOR	
	3-965-552-01	HOLDER (T), SENSOR	
		< HOLE ELEMENT >	
H001	8-719-033-37	ELEMENT, HALL HW-105C	
H002	8-719-033-37	ELEMENT, HALL HW-105C	
		< TRANSISTOR >	
Q001	8-729-907-25	PHOTO TRANSISTOR PT4850F	
Q002	8-729-907-25	PHOTO TRANSISTOR PT4850F	
		< SWITCH >	
S001	1-692-614-11	SWITCH, PUSH (3 KEY) (REC PROOF)	
S002	1-572-688-11	SWITCH, PUSH (1 KEY) (C.C.LOCK)	
		FP-355 BOARD, COMPLETE **********************	
			(Ref.No.5,000 Series)
	1-658-213-11	FP-355 FLEXIBLE	
		< DIODE >	
D001	8-719-988-42	DIODE GL453S	
	A-7072-353-A	JK-129 BOARD, COMPLETE ***********************	(EXCEPT TR490/TR490PK)
	A-7072-484-A	JK-129 BOARD, COMPLETE ***********************	(TR490/TR490PK)
			(Ref.No.2,000 Series)
		< CONNECTOR >	
* CN060	1-764-521-11	CONNECTOR, FFC/FPC (ZIF) 12P	
		< DIODE >	
D060	8-719-027-50	DIODE MA142WK	
D061	8-719-404-49	DIODE MA111	
D062	8-719-039-99	DIODE UMZ8.2T-T106	(TR490/TR490PK)
D063	8-719-039-99	DIODE UMZ8.2T-T106	
D069	8-719-039-99	DIODE UMZ8.2T-T106	
		< JACK >	
J060	1-537-726-11	TERMINAL BOARD (VIDEO/AUDIO OUT)	(EXCEPT TR490/TR490PK)
J060	1-537-747-11	TERMINAL BOARD (VIDEO/AUDIO OUT)	(TR490/TR490PK)
		< INDUCTOR >	
L60	1-216-295-11	RESISTOR 0	

Ref. No.	Part No.	Description	Remarks
L61	1-216-295-11	RESISTOR 0	(TR490/TR490PK)
		< RESISTOR >	
R60	1-216-864-11	METAL CHIP 0	
R61	1-216-864-11	METAL CHIP 0	(TR490/TR490PK)
	A-7092-696-A	LB-46 BOARD, COMPLETE(EXCEPT TR54/TR84) **********************	
			(Ref.No.4,000 Series)
		< FLUORESCENT >	
BL801	1-517-414-21	FLUORESCENT TUBE (0.55 INCH)	
		< CAPACITOR >	
C801	1-104-917-11	TANTAL. CHIP 15uF 20% 20V	
C802	1-165-178-11	CERAMIC CHIP 6.8uF 16V	
C803	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C804	1-163-020-00	CERAMIC CHIP 0.0082uF 10% 50V	
C805	1-163-020-00	CERAMIC CHIP 0.0082uF 10% 50V	
C806	1-163-020-00	CERAMIC CHIP 0.0082uF 10% 50V	
		< CONNECTOR >	
* CN801	1-573-333-21	CONNECTOR, BOARD TO BOARD 10P	
		< DIODE >	
D802	8-719-802-36	DIODE 1SS250	
		< COIL >	
L801	1-412-033-11	INDUCTOR CHIP 220uH	
L802	1-412-029-11	INDUCTOR CHIP 10uH	
		< TRANSISTOR >	
Q801	8-729-035-61	TRANSISTOR FX214-TL1	
		< RESISTOR >	
R801	1-216-809-11	METAL CHIP 100 5% 1/16W	
R802	1-216-839-11	METAL CHIP 33K 5% 1/16W	
		< TRANSFORMER >	
T801	1-426-848-51	TRANSFORMER, INVERTER	
	A-7072-358-A	MA-238 BOARD, COMPLETE ***********************	
			(EXCEPT TR490/TR490PK)
	A-7072-566-A	MA-238 BOARD, COMPLETE (TR490/TR490PK) ***********************	
			(Ref.No.2,000 Series)
		< CAPACITOR >	
C953	1-162-967-11	CERAMIC CHIP 0.0033uF 10% 50V	(TR490/TR490PK)
C954	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	(TR490/TR490PK)
C955	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	(TR490/TR490PK)
C957	1-164-156-11	CERAMIC CHIP 0.1uF 25V	(TR490/TR490PK)
C958	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	(TR490/TR490PK)
C959	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	(TR490/TR490PK)
C960	1-109-982-11	CERAMIC CHIP 1uF 10% 10V	(TR490/TR490PK)
C961	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	(TR490/TR490PK)
C962	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	(TR490/TR490PK)
C963	1-162-927-11	CERAMIC CHIP 100PF 5% 50V	(TR490/TR490PK)
C964	1-162-927-11	CERAMIC CHIP 100PF 5% 50V	
C969	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	(TR490/TR490PK)
C970	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	(TR490/TR490PK)
C972	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	(TR490/TR490PK)
C973	1-109-982-11	CERAMIC CHIP 1uF 10% 10V	(TR490/TR490PK)
C974	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	(TR490/TR490PK)
C975	1-163-037-11	CERAMIC CHIP 0.022uF 10% 25V	(TR490/TR490PK)
C977	1-162-967-11	CERAMIC CHIP 0.0033uF 10% 50V	(TR490/TR490PK)
C978	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C980	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	(EXCEPT TR490/TR490PK)
C982	1-165-128-11	CERAMIC CHIP 0.22uF 16V	(EXCEPT TR490/TR490PK)
C983	1-162-927-11	CERAMIC CHIP 100PF 5% 50V	(EXCEPT TR490/TR490PK)
C984	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	(EXCEPT TR490/TR490PK)
C985	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	(EXCEPT TR490/TR490PK)
C986	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	(EXCEPT TR490/TR490PK)
C988	1-164-346-11	CERAMIC CHIP 1uF 16V	(EXCEPT TR490/TR490PK)
C990	1-126-607-11	ELECT CHIP 47uF 20% 4V	(EXCEPT TR490/TR490PK)
C990	1-124-779-00	ELECT CHIP 10uF 20% 16V	(TR490/TR490PK)
C991	1-164-245-11	CERAMIC CHIP 0.015uF 10% 25V	(EXCEPT TR490/TR490PK)
C993	1-124-779-00	ELECT CHIP 10uF 20% 16V	
C995	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	(TR490/TR490PK)
C996	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	(TR490/TR490PK)
C998	1-163-809-11	CERAMIC CHIP 0.047uF 10% 25V	(TR490/TR490PK)
C999	1-163-809-11	CERAMIC CHIP 0.047uF 10% 25V	(TR490/TR490PK)

Ref. No.	Part No.	Description	Remarks
		< CONNECTOR >	
CN951	1-764-707-21	CONNECTOR, FFC/FPC (LIF) 8P	
CN952	1-580-055-21	PIN, CONNECTOR 2P (TR490/TR490PK)	
CN953	1-580-055-21	PIN, CONNECTOR 2P	
		< DIODE >	
D951	8-719-404-49	DIODE MA111	
D952	8-719-404-49	DIODE MA111	
		< IC >	
IC951	8-759-380-80	IC LA7473V-TLM (TR490/TR490PK)	
IC952	8-759-339-63	IC NJM2118V-TE2 (EXCEPT TR490/TR490PK)	
IC953	8-749-012-17	IC RS-140-T	
		< JACK >	
J951	1-568-027-11	JACK, SMALL TYPE 1P (MIC)	(EXCEPT TR490/TR490PK)
J951	1-691-737-11	JACK (SMALL TYPE) (MIC)(TR490/TR490PK)	
		< COIL >	
L951	1-414-235-11	INDUCTOR, FERRITE BEAD (TR490/TR490PK)	
L952	1-412-939-11	INDUCTOR 1uH (EXCEPT TR490/TR490PK)	
L952	1-414-235-11	INDUCTOR, FERRITE BEAD(TR490/TR490PK)	
L953	1-412-939-11	INDUCTOR 1uH (EXCEPT TR490/TR490PK)	
L953	1-414-235-11	INDUCTOR, FERRITE BEAD(TR490/TR490PK)	
		< TRANSISTOR >	
Q951	8-729-420-24	TRANSISTOR 2SB1218A-QRS	(EXCEPT TR490/TR490PK)
		< RESISTOR >	
R952	1-216-864-11	METAL CHIP 0 5% 1/16W	(TR490/TR490PK)
R954	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	(TR490/TR490PK)
R957	1-216-836-11	METAL CHIP 18K 5% 1/16W	(TR490/TR490PK)
R958	1-216-838-11	METAL CHIP 27K 5% 1/16W	(TR490/TR490PK)
R959	1-216-833-11	METAL CHIP 10K 5% 1/16W	(TR490/TR490PK)
R961	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	(TR490/TR490PK)
R962	1-216-839-11	METAL CHIP 33K 5% 1/16W	(TR490/TR490PK)
R963	1-216-831-11	METAL CHIP 6.8K 5% 1/16W	(TR490/TR490PK)
R964	1-216-831-11	METAL CHIP 6.8K 5% 1/16W	(TR490/TR490PK)
R965	1-216-839-11	METAL CHIP 33K 5% 1/16W	(TR490/TR490PK)
R967	1-216-833-11	METAL CHIP 10K 5% 1/16W	(TR490/TR490PK)
R968	1-216-834-11	METAL CHIP 12K 5% 1/16W	(TR490/TR490PK)
R969	1-216-838-11	METAL CHIP 27K 5% 1/16W	(TR490/TR490PK)
R970	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	(TR490/TR490PK)
R972	1-216-864-11	METAL CHIP 0 5% 1/16W	
R973	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	(TR490/TR490PK)
R974	1-216-864-11	METAL CHIP 0 5% 1/16W	(EXCEPT TR490/TR490PK)
R975	1-216-831-11	METAL CHIP 6.8K 5% 1/16W	(TR490/TR490PK)
R976	1-216-831-11	METAL CHIP 6.8K 5% 1/16W	(TR490/TR490PK)
R978	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	(EXCEPT TR490/TR490PK)
R979	1-216-819-11	METAL CHIP 680 5% 1/16W	(EXCEPT TR490/TR490PK)
R980	1-216-830-11	METAL CHIP 5.6K 5% 1/16W	(EXCEPT TR490/TR490PK)
R981	1-216-838-11	METAL CHIP 27K 5% 1/16W	(EXCEPT TR490/TR490PK)
R982	1-216-831-11	METAL CHIP 6.8K 5% 1/16W	(EXCEPT TR490/TR490PK)
R983	1-216-838-11	METAL CHIP 27K 5% 1/16W	(EXCEPT TR490/TR490PK)
R986	1-216-864-11	METAL CHIP 0 5% 1/16W	(TR490/TR490PK)
R989	1-216-824-11	METAL CHIP 1.8K 5% 1/16W	(TR490/TR490PK)
R990	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	(TR490/TR490PK)
R991	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	(TR490/TR490PK)
R992	1-216-838-11	METAL CHIP 27K 5% 1/16W	(TR490/TR490PK)
R993	1-216-838-11	METAL CHIP 27K 5% 1/16W	(TR490/TR490PK)
R995	1-216-835-11	METAL CHIP 15K 5% 1/16W	(TR490/TR490PK)
R996	1-216-835-11	METAL CHIP 15K 5% 1/16W	(TR490/TR490PK)
R997	1-216-809-11	METAL CHIP 100 5% 1/16W	(EXCEPT TR490/TR490PK)

Ref. No.	Part No.	Description	Remarks
	A-7072-356-A	PW-108 BOARD, COMPLETE **********************	(EXCEPT TR490/TR490PK)
	A-7072-572-A	PW-108 BOARD, COMPLETE (TR490/TR490PK) **********************	
			(Ref.No.2,000 Series)
		< CONNECTOR >	
CN583	1-764-703-11	CONNECTOR, FFC/FPC (LIF) 4P	
		< SWITCH >	
S490	1-572-467-21	SWITCH, PUSH (1 KEY) (CAMERA)	
S491	1-572-467-21	SWITCH, PUSH (1 KEY) (PLAYER)	

Ref. No.	Part No.	Description	Remarks
	A-7072-422-A	TZ-3 BOARD,COMPLETE(TR84/TR94) *******************	
	A-7072-469-A	TZ-3 BOARD,COMPLETE(TR74/TR490/TR490PK) *******************	
			(Ref.No.5,000 Series)

< CAPACITOR >

Ref. No.	Part No.	Description	Remarks
C650	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	(TR84/TR94)
C651	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	(TR84/TR94)
C652	1-104-908-11	TANTAL. CHIP 47uF 20% 4V	(TR84/TR94)
C653	1-104-908-11	TANTAL. CHIP 47uF 20% 4V	(TR84/TR94)
C654	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	(TR84/TR94)
C655	1-164-156-11	CERAMIC CHIP 0.1uF 25V	(TR84/TR94)
C656	1-164-299-11	CERAMIC CHIP 0.22uF 10% 25V	(TR84/TR94)
C657	1-164-299-11	CERAMIC CHIP 0.22uF 10% 25V	(TR84/TR94)
C658	1-164-245-11	CERAMIC CHIP 0.015uF 10% 25V	(TR84/TR94)
C659	1-164-245-11	CERAMIC CHIP 0.015uF 10% 25V	(TR84/TR94)
C660	1-128-257-21	ELECT CHIP 33uF 20% 10V	(TR84/TR94)
C661	1-128-257-21	ELECT CHIP 33uF 20% 10V	(TR84/TR94)
C663	1-162-953-11	CERAMIC CHIP 100PF 5% 50V	(TR84/TR94)
C664	1-162-953-11	CERAMIC CHIP 100PF 5% 50V	(TR84/TR94)
C665	1-162-568-11	CERAMIC CHIP 0.33uF 0% 16V	(TR84/TR94)
C666	1-162-568-11	CERAMIC CHIP 0.33uF 10% 16V	(TR84/TR94)
C667	1-164-156-11	CERAMIC CHIP 0.1uF 25V	(TR84/TR94)
C668	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	(TR84/TR94)
C669	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	(TR84/TR94)
C670	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	(TR84/TR94)
C671	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	(TR84/TR94)
C672	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	(TR74/TR84/TR94/TR490/TR490PK)
C673	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	(TR74/TR84/TR94/TR490/TR490PK)
C674	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	(TR74/TR84/TR94/TR490/TR490PK)
C675	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	(TR74/TR84/TR94/TR490/TR490PK)

< CONNECTOR >

Ref. No.	Part No.	Description	Remarks
CN650	1-691-356-21	CONNECTOR, FFC/FPC (ZIF) 18P	(TR74/TR84/TR94/TR490/TR490PK)

< IC >

Ref. No.	Part No.	Description	Remarks
IC650	8-759-080-34	IC TA75W01FU-TE12R	(TR84/TR94)
IC651	8-759-058-45	IC NJM3403AV(TE2)	(TR84/TR94)
IC652	8-759-234-77	IC TC4S66F	(TR84/TR94)
IC653	8-759-234-77	IC TC4S66F	(TR84/TR94)
IC654	8-759-248-78	IC MB88102PFV-G-BND-ER	(TR84/TR94)
IC655	8-752-867-95	IC CXP81120-016R	(TR74/TR84/TR94/TR490/TR490PK)

< COIL >

Ref. No.	Part No.	Description	Remarks
L650	1-414-078-11	INDUCTOR 10uH	(TR84/TR94)
L651	1-414-078-11	INDUCTOR 10uH	(TR84/TR94)
L652	1-412-058-11	INDUCTOR CHIP 10uH	(TR74/TR84/TR94/TR490/TR490PK)

< TRANSISTOR >

Ref. No.	Part No.	Description	Remarks
Q650	8-729-402-42	TRANSISTOR UN5213	(TR84/TR94)

< RESISTOR >

Ref. No.	Part No.	Description	Remarks
R650	1-216-837-11	METAL CHIP 22K 5% 1/16W	(TR84/TR94)
R651	1-216-837-11	METAL CHIP 22K 5% 1/16W	(TR84/TR94)
R652	1-216-837-11	METAL CHIP 22K 5% 1/16W	(TR84/TR94)
R653	1-216-837-11	METAL CHIP 22K 5% 1/16W	(TR84/TR94)
R654	1-216-837-11	METAL CHIP 22K 5% 1/16W	(TR84/TR94)
R655	1-216-837-11	METAL CHIP 22K 5% 1/16W	(TR84/TR94)
R656	1-216-803-11	METAL CHIP 33 5% 1/16W	(TR84/TR94)
R658	1-216-833-11	METAL CHIP 10K 5% 1/16W	(TR84/TR94)
R659	1-216-833-11	METAL CHIP 10K 5% 1/16W	(TR84/TR94)
R660	1-218-911-11	METAL CHIP 470K 0.50% 1/16W	(TR84/TR94)
R661	1-218-911-11	METAL CHIP 470K 0.50% 1/16W	(TR84/TR94)
R662	1-218-911-11	METAL CHIP 470K 0.50% 1/16W	(TR84/TR94)
R663	1-218-911-11	METAL CHIP 470K 0.50% 1/16W	(TR84/TR94)
R664	1-216-833-11	METAL CHIP 10K 5% 1/16W	(TR84/TR94)
R665	1-216-850-11	METAL CHIP 270K 5% 1/16W	(TR84/TR94)
R666	1-216-850-11	METAL CHIP 270K 5% 1/16W	(TR84/TR94)
R667	1-216-833-11	METAL CHIP 10K 5% 1/16W	(TR84/TR94)
R668	1-216-835-11	METAL CHIP 15K 5% 1/16W	(TR84/TR94)
R669	1-216-835-11	METAL CHIP 15K 5% 1/16W	(TR84/TR94)

Ref. No.	Part No.	Description				Remarks
R670	1-216-845-11	METAL CHIP	100K	5%	1/16W	(TR84/TR94)
R671	1-216-845-11	METAL CHIP	100K	5%	1/16W	(TR84/TR94)
R672	1-216-845-11	METAL CHIP	100K	5%	1/16W	(TR74/TR84/TR94/TR490/TR490PK)
R673	1-216-821-11	METAL CHIP	1K	5%	1/16W	(TR74/TR84/TR94/TR490/TR490PK)
R674	1-216-845-11	METAL CHIP	100K	5%	1/16W	(TR74/TR84/TR94/TR490/TR490PK)
R675	1-216-821-11	METAL CHIP	1K	5%	1/16W	(TR74/TR84/TR94/TR490/TR490PK)
R676	1-216-857-11	METAL CHIP	1M	5%	1/16W	(TR74/TR84/TR94/TR490/TR490PK)
R679	1-216-864-11	METAL CHIP	0	5%	1/16W	(TR84/TR94)
R681	1-216-864-11	METAL CHIP	0	5%	1/16W	(TR84/TR94)
R683	1-216-864-11	METAL CHIP	0	5%	1/16W	(TR74/TR84/TR94/TR490/TR490PK)
R685	1-216-864-11	METAL CHIP	0	5%	1/16W	(TR74/TR84/TR94/TR490/TR490PK)

< SENSOR >

Ref. No.	Part No.	Description	Remarks
SE650	1-810-725-81	SENSOR, ANGULAR VELOCITY	(TR84/TR94)
SE651	1-810-725-71	SENSOR, ANGULAR VELOCITY	(TR84/TR94)

< VIBRATOR >

Ref. No.	Part No.	Description	Remarks
X650	1-579-553-11	VIBRATOR	(TR74/TR84/TR94/TR490/TR490PK)

A-7092-574-A VC-167 BOARD, COMPLETE (TR54)
****

A-7092-618-A VC-167 BOARD, COMPLETE
****
(TR64/TR440/TR440PK/TR490/TR490PK)

A-7092-715-A VC-167 BOARD, COMPLETE(TR74)
****

A-7092-713-A VC-167 BOARD, COMPLETE(TR84)
****

A-7092-718-A VC-167 BOARD, COMPLETE(TR94)
****

(Ref.No.1,000 Series)

< CAPACITOR >

Ref. No.	Part No.	Description				Remarks
C061	1-104-852-11	TANTAL. CHIP	22uF	20%	6.3V	
C069	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	(EXCEPT TR54/TR84)
C072	1-164-156-11	CERAMIC CHIP	0.1uF		25V	
C073	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C075	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C076	1-164-156-11	CERAMIC CHIP	0.1uF		25V	(TR54)
C076	1-109-996-11	CERAMIC CHIP	1uF		6.3V	(EXCEPT TR54)
C077	1-164-346-11	CERAMIC CHIP	1uF		16V	
C078	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C101	1-162-919-11	CERAMIC CHIP	22PF	5%	50V	
C102	1-162-919-11	CERAMIC CHIP	22PF	5%	50V	
C103	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C104	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C106	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C107	1-162-927-11	CERAMIC CHIP	100PF	5%	50V	
C108	1-162-926-11	CERAMIC CHIP	82PF	5%	50V	
C109	1-162-927-11	CERAMIC CHIP	100PF	5%	50V	
C110	1-164-217-11	CERAMIC CHIP	150PF	5%	50V	
C111	1-164-156-11	CERAMIC CHIP	0.1uF		25V	
C112	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V	
C113	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C114	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	
C115	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	
C116	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C117	1-164-156-11	CERAMIC CHIP	0.1uF		25V	
C118	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V	
C119	1-162-959-11	CERAMIC CHIP	330PF	5%	50V	
C120	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C121	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C122	1-162-959-11	CERAMIC CHIP	330PF	5%	50V	
C123	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C124	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C125	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C127	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C128	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C129	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	
C130	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V	
C134	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C135	1-104-852-11	TANTAL. CHIP	22uF	20%	6.3V	
C136	1-164-156-11	CERAMIC CHIP	0.1uF		25V	
C137	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C138	1-162-958-11	CERAMIC CHIP	270PF	5%	50V	
C139	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C140	1-162-918-11	CERAMIC CHIP	18PF	5%	50V	
C141	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V	
C142	1-162-958-11	CERAMIC CHIP	270PF	5%	50V	
C143	1-162-918-11	CERAMIC CHIP	18PF	5%	50V	
C148	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C149	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	
C150	1-162-919-11	CERAMIC CHIP	22PF	5%	50V	
C152	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	
C153	1-162-916-11	CERAMIC CHIP	12PF	5%	50V	
C154	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C156	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	
C157	1-162-921-11	CERAMIC CHIP	33PF	5%	50V	
C160	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	
C162	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C163	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C164	1-162-922-11	CERAMIC CHIP	39PF	5%	50V	
C165	1-162-920-11	CERAMIC CHIP	27PF	5%	50V	(EXCEPT TR490/TR490PK)
C165	1-162-917-11	CERAMIC CHIP	15PF	5%	50V	(TR490/TR490PK)
C166	1-162-958-11	CERAMIC CHIP	270PF	5%	50V	
C167	1-162-927-11	CERAMIC CHIP	100PF	5%	50V	(EXCEPT TR490/TR490PK)

Ref. No.	Part No.	Description			Remarks
C167	1-162-926-11	CERAMIC CHIP	82PF	5%	50V
					(TR490/TR490PK)
C168	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C169	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C170	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C171	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C202	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C203	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C204	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C205	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C206	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C207	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C208	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C209	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C210	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C211	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C212	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C213	1-104-852-11	TANTAL. CHIP	22uF	20%	6.3V
C214	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C215	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C216	1-126-246-11	ELECT CHIP	220uF	20%	4V
C217	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C218	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C219	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C220	1-162-913-11	CERAMIC CHIP	8PF	0.5PF	50V
C221	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C223	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C224	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C225	1-164-218-11	CERAMIC CHIP	180PF	0.25PF	50V
C226	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C227	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C229	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C230	1-164-392-11	CERAMIC CHIP	390PF	5%	50V
C231	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C232	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C233	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
					(TR490/TR490PK)
C234	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C235	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C236	1-135-091-91	TANTAL. CHIP	1uF	20%	16V
C237	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C238	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C240	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C242	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
					(EXCEPT TR490/TR490PK)
C242	1-104-752-11	TANTAL. CHIP	33uF	20%	6.3V
					(TR490/TR490PK)
C243	1-162-925-11	CERAMIC CHIP	68PF	5%	50V
C244	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C245	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
					(EXCEPT TR490/TR490PK)
C245	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
					(TR490/TR490PK)
C246	1-135-073-00	TANTALUM CHIP	0.33uF	10%	35V
C249	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C252	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C254	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
					(EXCEPT TR490/TR490PK)
C254	1-162-975-11	CERAMIC CHIP	24PF	5%	50V
					(TR490/TR490PK)
C256	1-165-112-11	CERAMIC CHIP	0.33uF		16V
C257	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C259	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C260	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C261	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
					(EXCEPT TR490/TR490PK)
C263	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C265	1-162-926-11	CERAMIC CHIP	82PF	5%	50V
C266	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C267	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
					(TR490/TR490PK)
C268	1-162-913-11	CERAMIC CHIP	8PF	0.5PF	50V
					(TR490/TR490PK)
C270	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
					(TR490/TR490PK)
C271	1-164-156-11	CERAMIC CHIP	0.1uF		25V
					(TR490/TR490PK)
C400	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C401	1-162-913-11	CERAMIC CHIP	8PF	0.5PF	50V
C402	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C403	1-162-912-11	CERAMIC CHIP	7PF	0.5PF	50V
C404	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C405	1-162-907-11	CERAMIC CHIP	2PF	0.25PF	50V
C406	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C407	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C408	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C411	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C412	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C414	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C415	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C416	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C417	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C418	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C419	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C420	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C421	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C423	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C424	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C425	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C426	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C427	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C428	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C429	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C430	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C431	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C432	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C433	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C434	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C435	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C436	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C437	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C438	1-164-156-11	CERAMIC CHIP	0.1uF		25V

Ref. No.	Part No.	Description			Remarks
C439	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C441	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C442	1-165-112-11	CERAMIC CHIP	0.33uF		16V
C443	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C444	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C445	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C446	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C447	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C448	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C449	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C450	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C451	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C452	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C453	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C456	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C458	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C502	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C505	1-104-908-11	TANTAL. CHIP	47uF	20%	4V
					(TR490/TR490PK)
C506	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
					(TR490/TR490PK)
C507	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
					(TR490/TR490PK)
C511	1-135-180-21	TANTALUM CHIP	3.3uF	20%	6.3V
					(EXCEPT TR490/TR490PK)
C511	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
					(TR490/TR490PK)
C512	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C515	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C516	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
					(TR440/TR440PK)
C516	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
					(TR490/TR490PK)
C517	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
					(TR490/TR490PK)
C518	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
					(EXCEPT TR490/TR490PK)
C520	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C521	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C522	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C523	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C525	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
					(TR490/TR490PK)
C526	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C528	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
					(TR490/TR490PK)
C529	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C530	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C531	1-104-852-11	TANTAL. CHIP	22uF	20%	6.3V
					(EXCEPT TR490/TR490PK)
C531	1-104-908-11	TANTAL. CHIP	47uF	20%	4V
					(TR490/TR490PK)
C532	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
					(EXCEPT TR490/TR490PK)
C532	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
					(TR490/TR490PK)
C533	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C534	1-164-232-11	CERAMIC CHIP	0.01uF		50V
					(TR490/TR490PK)
C535	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C537	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C538	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
					(TR490/TR490PK)
C540	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
					(TR490/TR490PK)
C542	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C543	1-104-908-11	TANTAL. CHIP	47uF	20%	4V
C544	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
					(TR490/TR490PK)
C546	1-126-209-11	ELECT	100uF	20%	4V
					(EXCEPT TR490/TR490PK)
C546	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
					(TR490/TR490PK)
C548	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
					(EXCEPT TR490/TR490PK)
C548	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
					(TR490/TR490PK)
C550	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C553	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
					(TR490/TR490PK)
C556	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C557	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C558	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C561	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
					(EXCEPT TR490/TR490PK)
C563	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
					(TR490/TR490PK)
C564	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
					(TR490/TR490PK)
C565	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
					(TR490/TR490PK)
C602	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C603	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C604	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C605	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C606	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C607	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C608	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C609	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C610	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C611	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C612	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C613	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C614	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C615	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C616	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C618	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C619	1-104-752-11	TANTAL. CHIP	33uF	20%	6.3V
C620	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C701	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C702	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C703	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C704	1-164-346-11	CERAMIC CHIP	1uF		16V
C706	1-135-214-21	TANTAL. CHIP	4.7uF	20%	20V
C707	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C708	1-164-232-11	CERAMIC CHIP	0.01uF		50V

Ref. No.	Part No.	Description			Remarks
C710	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C711	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C712	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C713	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C714	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C715	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C717	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C718	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C719	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C720	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C722	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C724	1-162-924-11	CERAMIC CHIP	56PF	5%	50V
					(EXCEPT TR84/TR94)
C724	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
					(TR84/TR94)
C725	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C726	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C727	1-135-091-91	TANTAL. CHIP	1uF	20%	16V
C728	1-135-091-91	TANTAL. CHIP	1uF	20%	16V
C729	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C730	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C731	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C732	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C734	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C735	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C736	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C745	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C746	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C748	1-164-156-11	CERAMIC CHIP	0.1uF		25V
					(TR74/TR490/TR490PK)
C749	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C750	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C751	1-164-346-11	CERAMIC CHIP	1uF		16V
C755	1-164-346-11	CERAMIC CHIP	1uF		16V
C757	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C758	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C759	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C760	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
					(TR74/TR84/TR94/TR490/TR490PK)
C761	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
					(TR74/TR84/TR94/TR490/TR490PK)
C764	1-162-928-11	CERAMIC CHIP	120PF	5%	50V
C765	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C772	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V

< CONNECTOR >

CN060	1-691-350-21	CONNECTOR, FFC/FPC (ZIF) 12P	
CN101	1-766-341-21	CONNECTOR, FFC/FPC 11P	
CN102	1-764-708-21	CONNECTOR, FFC/FPC (LIF) 9P	
CN300	1-774-054-21	CONNECTOR, FFC/FPC (ZIF) 45P	
* CN301	1-691-931-11	CONNECTOR, BOARD TO BOARD 38P	
CN400	1-766-340-21	CONNECTOR, FFC/FPC 10P	
CN401	1-766-342-21	CONNECTOR, FFC/FPC 12P	
CN402	1-766-345-21	CONNECTOR, FFC/FPC 15P	
CN403	1-766-644-21	CONNECTOR, FFC/FPC 8P	
CN501	1-764-707-21	CONNECTOR, FFC/FPC (LIF) 8P	
CN601	1-764-529-11	CONNECTOR, FFC/FPC (ZIF) 22P	
CN701	1-750-630-11	CONNECTOR, FFC/FPC (ZIF) 16P	
CN702	1-691-356-21	CONNECTOR, FFC/FPC (ZIF) 18P	
			(TR74/TR84/TR94/TR490/TR490PK)

< DIODE >

D101	8-719-404-49	DIODE	MA111	
D102	8-719-820-41	DIODE	1SS302	
D103	8-719-027-50	DIODE	MA142WK	
D201	8-719-027-50	DIODE	MA142WK	
D203	8-719-027-48	DIODE	MA142WA	
D302	8-719-404-49	DIODE	MA111	
D319	8-719-033-13	DIODE	CL-170Y-CD-T	(DEW)
D701	8-719-027-48	DIODE	MA142WA	
D702	8-719-404-49	DIODE	MA111	
D703	8-719-404-49	DIODE	MA111	
D706	8-713-102-28	DIODE	1T379-04-T8A	

< IC >

IC061	8-759-290-12	IC	M62370GP-650D	
IC101	8-752-071-48	IC	CXA2002R	
IC201	8-752-071-47	IC	CXA2001R	
IC202	8-759-035-90	IC	TC7S02F(TE85R)	(TR490/TR490PK)
IC204	8-759-234-20	IC	TC7S08F	
IC400	8-752-871-64	IC	CXP87460-007R	
IC401	8-759-278-57	IC	AK6420HF-E2	
IC402	8-752-070-46	IC	CXA1814Q	
IC403	8-759-327-67	IC	LB1950V-TLM	
IC404	8-759-327-61	IC	LB8112V-TLM	
IC405	8-759-234-20	IC	TC7S08F	
IC501	8-759-338-93	IC	AN3996FHP-EB	(EXCEPT TR490/490PK)
IC501	8-759-368-08	IC	AN2980FH-EB	(TR490/TR490PK)
IC601	8-759-701-01	IC	NJM2904M	(EXCEPT TR490/490PK)
IC601	8-759-337-40	IC	NJM2904V(TE2)	(TR490/TR490PK)
IC602	8-759-337-41	IC	NJM2902V(TE2)	
IC603	8-759-247-07	IC	MPC17A34VMEL	
IC604	8-752-365-65	IC	CXD2126N-T4	
IC701	8-752-372-14	IC	CXD1267AN	
IC702	8-752-374-25	IC	CXD2415R-T4	
IC703	8-752-073-11	IC	CXA2006Q-T4	
IC704	8-752-375-80	IC	CXD2312R	
IC705	8-752-374-02	IC	CXD2418R	
IC706	8-759-349-58	IC	CXD8562R	
IC707	8-759-297-76	IC	CXD2152AREL	
				(TR74/TR84/TR94/TR490/TR490PK)
IC708	8-759-337-40	IC	NJM2904V(TE2)	
IC710	8-759-198-34	IC	TA75S558F	

< COIL >

L061	1-412-064-11	INDUCTOR CHIP	100uH
L062	1-414-078-11	INDUCTOR	10uH
L063	1-412-052-21	INDUCTOR CHIP	1uH
L101	1-412-066-21	INDUCTOR CHIP	220uH
L102	1-412-066-21	INDUCTOR CHIP	220uH

Ref. No.	Part No.	Description	Remarks
L103	1-412-066-21	INDUCTOR CHIP 220uH	
L104	1-412-952-11	INDUCTOR 12uH	
L105	1-412-060-11	INDUCTOR CHIP 22uH	
L106	1-412-957-11	INDUCTOR 33uH	
L107	1-412-280-31	INDUCTOR 330uH	
L108	1-412-282-41	INDUCTOR 470uH	
L109	1-412-355-41	INDUCTOR 180uH	
L113	1-414-078-11	INDUCTOR 10uH	
L114	1-412-355-41	INDUCTOR 180uH	
L115	1-412-957-11	INDUCTOR 33uH	
L116	1-414-078-11	INDUCTOR 10uH	
L118	1-414-373-31	INDUCTOR CHIP 10uH	
L118	1-414-373-61	INDUCTOR CHIP 10uH	
L119	1-412-950-11	INDUCTOR 8.2uH	
L120	1-410-658-31	INDUCTOR CHIP 220uH	
L121	1-410-655-31	INDUCTOR CHIP 120uH	
L202	1-412-064-11	INDUCTOR CHIP 100uH	
L203	1-412-959-11	INDUCTOR 47uH	(EXCEPT TR490/490PK)
L203	1-412-962-11	INDUCTOR 82uH	(TR490/TR490PK)
L205	1-412-955-11	INDUCTOR 22uH	
L207	1-412-963-11	INDUCTOR 100uH	(EXCEPT TR490/490PK)
L207	1-412-962-11	INDUCTOR 82uH	(TR490/TR490PK)
L210	1-412-955-11	INDUCTOR 22uH	
L211	1-412-058-11	INDUCTOR CHIP 10uH	
L212	1-412-058-11	INDUCTOR CHIP 10uH	
L213	1-414-170-41	INDUCTOR 100uH	
L214	1-412-056-11	INDUCTOR CHIP 4.7uH	
L215	1-412-962-11	INDUCTOR 82uH	(TR490/TR490PK)
L400	1-412-058-11	INDUCTOR CHIP 10uH	
L401	1-412-959-11	INDUCTOR 47uH	
L601	1-412-058-11	INDUCTOR CHIP 10uH	
L602	1-412-058-11	INDUCTOR CHIP 10uH	
L603	1-412-951-11	INDUCTOR 10uH	
L701	1-412-058-11	INDUCTOR CHIP 10uH	
L703	1-414-078-11	INDUCTOR 10uH	
L704	1-412-058-11	INDUCTOR CHIP 10uH	
L706	1-412-058-11	INDUCTOR CHIP 10uH	
L707	1-412-979-21	INDUCTOR 1uH	
L708	1-412-979-21	INDUCTOR 1uH	
L709	1-412-052-21	INDUCTOR CHIP 1uH	
L710	1-412-052-21	INDUCTOR CHIP 1uH	
L712	1-414-078-11	INDUCTOR 10uH	
L714	1-412-058-11	INDUCTOR CHIP 10uH	
L715	1-414-078-11	INDUCTOR 10uH	
L716	1-414-078-11	INDUCTOR 10uH	(TR74/TR84/TR94/TR490/TR490PK)
L751	1-414-078-11	INDUCTOR 10uH	
L752	1-414-196-41	INDUCTOR 47uH	
L753	1-414-196-41	INDUCTOR 47uH	

Ref. No.	Part No.	Description	Remarks
		< TRANSISTOR >	
Q060	8-729-420-24	TRANSISTOR 2SB1218A-QRS	(EXCEPT TR54/84)
Q061	8-729-101-07	TRANSISTOR 2SB798-DL	
Q062	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q063	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q064	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q065	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q101	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q102	8-729-402-48	TRANSISTOR UN521E-TX	
Q103	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q104	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q105	8-729-420-24	TRANSISTOR 2SB1218A-QRS	
Q106	8-729-905-23	TRANSISTOR 2SA1576-R	
Q107	8-729-824-02	TRANSISTOR 2SA1838	
Q108	8-729-402-42	TRANSISTOR UN5213	
Q109	8-729-402-42	TRANSISTOR UN5213	
Q110	8-729-012-50	TRANSISTOR 2SC4400-3/4/5	
Q111	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q112	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q113	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q120	8-729-403-35	TRANSISTOR UN5113	
Q123	8-729-015-74	TRANSISTOR UN5111-TX	
Q124	8-729-117-73	TRANSISTOR 2SC4178-F14	
Q125	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q127	8-729-402-42	TRANSISTOR UN5213(EXCEPT TR490/490PK)	
Q129	8-729-420-24	TRANSISTOR 2SB1218A-QRS	
Q130	8-729-012-50	TRANSISTOR 2SC4400-3/4/5	
Q131	8-729-420-24	TRANSISTOR 2SB1218A-QRS	
Q202	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q206	8-729-420-24	TRANSISTOR 2SB1218A-QRS	
Q206	8-729-905-23	TRANSISTOR 2SA1576-R	
Q208	8-729-402-42	TRANSISTOR UN5213-TX(TR490/TR490PK)	
Q211	8-729-420-24	TRANSISTOR 2SB1218A-QRS	
Q212	8-729-420-24	TRANSISTOR 2SB1218A-QRS	
Q213	8-729-402-42	TRANSISTOR UN5213	
Q214	8-729-420-24	TRANSISTOR 2SB1218A-QRS	
Q215	8-729-013-15	TRANSISTOR 2SC4909-TL	
Q217	8-729-420-12	TRANSISTOR XN4213	
Q218	8-729-420-24	TRANSISTOR 2SB1218A-QRS	
Q219	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q221	8-729-402-42	TRANSISTOR UN5213	
Q223	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q224	8-729-420-24	TRANSISTOR 2SB1218A-QRS	
Q226	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q227	8-729-013-15	TRANSISTOR 2SC4909-TL	(TR490/TR490PK)
Q303	8-729-015-76	TRANSISTOR UN5211-TX	
Q400	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q401	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q501	8-729-420-53	TRANSISTOR UN5115	
Q503	8-729-823-16	TRANSISTOR 2SC4555-5.6.7-TL	(TR490/TR490PK)
Q504	8-729-823-16	TRANSISTOR 2SC4555-5.6.7-TL	(TR490/TR490PK)

Ref. No.	Part No.	Description	Remarks
Q506	8-729-421-26	TRANSISTOR UN5216QRS-TX	(TR490/TR490P
Q507	8-729-421-26	TRANSISTOR UN5214	
Q510	8-729-402-42	TRANSISTOR UN5213-TX	(TR490/TR490PK)
Q511	8-729-402-42	TRANSISTOR UN5213-TX	(TR490/TR490PK)
Q601	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q602	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q603	8-729-420-53	TRANSISTOR UN5115	
Q701	8-729-403-27	TRANSISTOR XN4401	
Q703	8-729-402-42	TRANSISTOR UN5213	
Q704	8-729-403-35	TRANSISTOR UN5113	
Q705	8-729-403-35	TRANSISTOR UN5113	
Q706	8-729-402-42	TRANSISTOR UN5213	
Q750	8-729-420-24	TRANSISTOR 2SB1218A-QRS	
Q752	8-729-420-24	TRANSISTOR 2SB1218A-QRS	
Q753	8-729-013-15	TRANSISTOR 2SC4909-TL	
Q754	8-729-013-15	TRANSISTOR 2SC4909-TL	
		< RESISTOR >	
R060	1-216-864-11	METAL CHIP 0 5% 1/16W	(EXCEPT TR490/490PK)
R061	1-216-864-11	METAL CHIP 0 5% 1/16W	(EXCEPT TR490/490PK)
R062	1-216-864-11	METAL CHIP 0 5% 1/16W	
R063	1-216-821-11	METAL CHIP 1K 5% 1/16W	(EXCEPT TR54/84)
R077	1-216-138-00	METAL CHIP 3.3 5% 1/8W	
R078	1-216-830-11	METAL CHIP 5.6K 5% 1/16W	
R079	1-216-820-11	METAL CHIP 820 5% 1/16W	
R080	1-216-836-11	METAL CHIP 18K 5% 1/16W	
R081	1-216-818-11	METAL CHIP 560 5% 1/16W	
R082	1-216-822-11	METAL CHIP 1.2K 5% 1/16W	
R083	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R084	1-216-826-11	METAL CHIP 2.7K 5% 1/16W	
R085	1-216-826-11	METAL CHIP 2.7K 5% 1/16W	
R086	1-216-834-11	METAL CHIP 12K 5% 1/16W	
R087	1-216-832-11	METAL CHIP 8.2K 5% 1/16W	
R088	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	
R091	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R092	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R102	1-216-815-11	METAL CHIP 330 5% 1/16W	
R103	1-216-815-11	METAL CHIP 330 5% 1/16W	
R104	1-216-797-11	METAL CHIP 10 5% 1/16W	
R105	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R106	1-218-875-11	METAL CHIP 15K 0.50% 1/16W	
R107	1-216-836-11	METAL CHIP 18K 5% 1/16W	
R108	1-216-864-11	METAL CHIP 0 5% 1/16W	
R109	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R110	1-216-836-11	METAL CHIP 18K 5% 1/16W	
R111	1-216-831-11	METAL CHIP 6.8K 5% 1/16W	
R112	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R113	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R114	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R115	1-216-864-11	METAL CHIP 0 5% 1/16W	(EXCEPT TR490/490PK)
R115	1-216-845-11	METAL CHIP 100K 5% 1/16W	(TR490/TR490PK)
R116	1-216-853-11	METAL CHIP 470K 5% 1/16W	
R117	1-216-847-11	METAL CHIP 150K 5% 1/16W	
R118	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R119	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R120	1-216-839-11	METAL CHIP 33K 5% 1/16W	
R121	1-216-836-11	METAL CHIP 18K 5% 1/16W	
R122	1-216-818-11	METAL CHIP 560 5% 1/16W	
R123	1-216-815-11	METAL CHIP 330 5% 1/16W	
R125	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R126	1-216-797-11	METAL CHIP 10 5% 1/16W	
R127	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R128	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R129	1-216-819-11	METAL CHIP 680 5% 1/16W	
R130	1-216-835-11	METAL CHIP 15K 5% 1/16W	
R131	1-216-839-11	METAL CHIP 33K 5% 1/16W	
R132	1-216-813-11	METAL CHIP 220 5% 1/16W	
R133	1-216-818-11	METAL CHIP 560 5% 1/16W	
R134	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R135	1-216-864-11	METAL CHIP 0 5% 1/16W	(EXCEPT TR490/490PK)
R136	1-216-864-11	METAL CHIP 0 5% 1/16W	(EXCEPT TR490/490PK)
R141	1-216-816-11	METAL CHIP 390 5% 1/16W	
R149	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R150	1-216-826-11	METAL CHIP 2.7K 5% 1/16W	
R152	1-216-834-11	METAL CHIP 12K 5% 1/16W	
R153	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R154	1-216-817-11	METAL CHIP 470 5% 1/16W	
R155	1-216-807-11	METAL CHIP 68 5% 1/16W	
R156	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R157	1-216-816-11	METAL CHIP 390 5% 1/16W	
R158	1-216-819-11	METAL CHIP 680 5% 1/16W	
R159	1-216-864-11	METAL CHIP 0 5% 1/16W	
R160	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R161	1-216-864-11	METAL CHIP 0 5% 1/16W	
R162	1-216-835-11	METAL CHIP 15K 5% 1/16W	
R163	1-216-840-11	METAL CHIP 39K 5% 1/16W	
R164	1-216-864-11	METAL CHIP 0 5% 1/16W	
R165	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R166	1-216-836-11	METAL CHIP 18K 5% 1/16W	
R167	1-216-836-11	METAL CHIP 18K 5% 1/16W	
R168	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R169	1-216-864-11	METAL CHIP 0 5% 1/16W	
R170	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R171	1-216-840-11	METAL CHIP 39K 5% 1/16W	
R172	1-216-835-11	METAL CHIP 15K 5% 1/16W	
R173	1-216-864-11	METAL CHIP 0 5% 1/16W	
R176	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	
R178	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R179	1-216-817-11	METAL CHIP 470 5% 1/16W	
R180	1-216-818-11	METAL CHIP 560 5% 1/16W	
R181	1-216-818-11	METAL CHIP 560 5% 1/16W	

Ref. No.	Part No.	Description				Remarks
R182	1-216-809-11	METAL CHIP	100	5%	1/16W	
R183	1-216-818-11	METAL CHIP	560	5%	1/16W	
R184	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R185	1-216-818-11	METAL CHIP	560	5%	1/16W	
R186	1-216-818-11	METAL CHIP	560	5%	1/16W	
R187	1-216-823-11	METAL CHIP	1.5K	5%	1/16W	
R188	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R189	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R190	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R191	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R192	1-216-814-11	METAL CHIP	270	5%	1/16W	
R193	1-216-813-11	METAL CHIP	220	5%	1/16W	
R194	1-216-806-11	METAL GLAZE	56	5%	1/16W	
R195	1-216-809-11	METAL CHIP	100	5%	1/16W	
R196	1-216-818-11	METAL CHIP	560	5%	1/16W	
R197	1-216-864-11	METAL CHIP	0	5%	1/16W	
R201	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R202	1-216-836-11	METAL CHIP	18K	5%	1/16W	
R203	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R204	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R205	1-216-864-11	METAL CHIP	0	5%	1/16W	(EXCEPT TR490/490PK)
R206	1-216-815-11	METAL CHIP	330	5%	1/16W	
R207	1-216-864-11	METAL CHIP	0	5%	1/16W	(EXCEPT TR490/490PK)
R210	1-216-864-11	METAL CHIP	0	5%	1/16W	
R212	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R213	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R214	1-216-807-11	METAL CHIP	68	5%	1/16W	
R215	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R216	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R218	1-218-879-11	METAL CHIP	22K	0.50%	1/16W	
R219	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R220	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R221	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R222	1-216-821-11	METAL CHIP	1K	5%	1/16W	(EXCEPT TR490/490PK)
R222	1-216-818-11	METAL CHIP	560	5%	1/16W	(TR490/TR490PK)
R223	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R224	1-216-864-11	METAL CHIP	0	5%	1/16W	(EXCEPT TR490/490PK)
R225	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R226	1-216-817-11	METAL CHIP	470	5%	1/16W	
R227	1-216-821-11	METAL CHIP	1K	5%	1/16W	(EXCEPT TR490/490PK)
R228	1-216-822-11	METAL CHIP	1.2K	5%	1/16W	
R229	1-218-863-11	METAL CHIP	4.7K	0.50%	1/16W	
R230	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R232	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R234	1-218-849-11	METAL CHIP	1.2K	0.50%	1/16W	
R235	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R236	1-216-864-11	METAL CHIP	0	5%	1/16W	(EXCEPT TR490/490PK)
R238	1-216-864-11	METAL CHIP	0	5%	1/16W	(EXCEPT TR490/490PK)
R239	1-216-864-11	METAL CHIP	0	5%	1/16W	
R241	1-218-839-11	METAL GLAZE	470	0.50%	1/16W	
R243	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R244	1-216-841-11	METAL CHIP	47K	5%	1/16W	(TR490/TR490PK)
R245	1-216-864-11	METAL CHIP	0	5%	1/16W	
R246	1-216-864-11	METAL CHIP	0	5%	1/16W	
R247	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R248	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R249	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R254	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R255	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R256	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R257	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R259	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R260	1-216-817-11	METAL CHIP	470	5%	1/16W	
R263	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R265	1-216-817-11	METAL CHIP	470	5%	1/16W	
R266	1-216-864-11	METAL CHIP	0	5%	1/16W	
R267	1-216-864-11	METAL CHIP	0	5%	1/16W	
R268	1-216-820-11	METAL CHIP	820	5%	1/16W	
R273	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R274	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R276	1-216-864-11	METAL CHIP	0	5%	1/16W	
R277	1-216-819-11	METAL CHIP	680	5%	1/16W	
R279	1-216-823-11	METAL CHIP	1.5K	5%	1/16W	
R281	1-216-823-11	METAL CHIP	1.5K	5%	1/16W	
R283	1-216-819-11	METAL CHIP	680	5%	1/16W	
R284	1-216-819-11	METAL CHIP	680	5%	1/16W	
R286	1-216-836-11	METAL CHIP	18K	5%	1/16W	
R287	1-216-864-11	METAL CHIP	0	5%	1/16W	
R289	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R291	1-216-864-11	METAL CHIP	0	5%	1/16W	
R293	1-216-817-11	METAL CHIP	470	5%	1/16W	(TR490/TR490PK)
R294	1-216-822-11	METAL CHIP	1.2K	5%	1/16W	(TR490/TR490PK)
R295	1-216-852-11	METAL CHIP	390K	5%	1/16W	(TR490/TR490PK)
R296	1-216-849-11	METAL CHIP	220K	5%	1/16W	(TR490/TR490PK)
R297	1-216-842-11	METAL CHIP	56K	5%	1/16W	(TR490/TR490PK)
R298	1-216-833-11	METAL CHIP	10K	5%	1/16W	(TR490/TR490PK)
R299	1-218-272-11	METAL GLAZE	5.1K	5%	1/16W	(TR490/TR490PK)
R301	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R302	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R303	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R304	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R305	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R307	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R314	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R315	1-218-290-11	METAL GLAZE	6.2K	5%	1/16W	
R316	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R317	1-218-290-11	METAL GLAZE	6.2K	5%	1/16W	

Ref. No.	Part No.	Description				Remarks
R318	1-216-836-11	METAL CHIP	18K	5%	1/16W	
R319	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R320	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R321	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R327	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R328	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R329	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R330	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R331	1-216-864-11	METAL CHIP	0	5%	1/16W	
R333	1-216-864-11	METAL CHIP	0	5%	1/16W	
R334	1-208-766-11	METAL GLAZE	220	0.50%	1/10W	
R400	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R401	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R402	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R403	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R404	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R405	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R406	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R407	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R408	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R409	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R410	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R411	1-216-864-11	METAL CHIP	0	5%	1/16W	
R412	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R413	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R414	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R417	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R418	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R419	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R420	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R421	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R422	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R423	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R424	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R425	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R426	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R427	1-216-849-11	METAL CHIP	220K	5%	1/16W	
R428	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R429	1-216-800-11	METAL GLAZE	18	5%	1/16W	
R430	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R434	1-216-835-11	METAL CHIP	15K	5%	1/16W	
R436	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R437	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R439	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R440	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R441	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R442	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R443	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R444	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R445	1-216-833-11	METAL CHIP	10K	5%	1/16W	

Ref. No.	Part No.	Description				Remarks
R446	1-216-836-11	METAL CHIP	18K	5%	1/16W	
R447	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R448	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R449	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R450	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R451	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R452	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R453	1-217-671-11	METAL CHIP	1	5%	1/10W	
R454	1-217-671-11	METAL CHIP	1	5%	1/10W	
R455	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R456	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R458	1-217-671-11	METAL CHIP	1	5%	1/10W	
R459	1-217-671-11	METAL CHIP	1	5%	1/10W	
R460	1-217-671-11	METAL CHIP	1	5%	1/10W	
R461	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R462	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R463	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R464	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R465	1-216-808-11	METAL CHIP	82	5%	1/16W	
R466	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R467	1-216-019-00	METAL CHIP	56	5%	1/10W	
R468	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R469	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R471	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R472	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R473	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R474	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R475	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R476	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R477	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R478	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R479	1-216-817-11	METAL CHIP	470	5%	1/16W	
R481	1-216-817-11	METAL CHIP	470	5%	1/16W	
R482	1-216-817-11	METAL CHIP	470	5%	1/16W	
R501	1-216-830-11	METAL CHIP	5.6K	5%	1/16W	(EXCEPT TR490/490PK)
R501	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	(TR490/TR490PK)
R502	1-216-824-11	METAL CHIP	1.8K	5%	1/16W	(TR490/TR490PK)
R503	1-218-895-11	METAL CHIP	100K	0.50%	1/16W	(EXCEPT TR490/490PK)
R503	1-218-897-11	METAL CHIP	120K	0.50%	1/16W	(TR490/TR490PK)
R505	1-216-810-11	METAL CHIP	120	5%	1/16W	(TR490/TR490PK)
R506	1-218-903-11	METAL CHIP	220K	0.50%	1/16W	(EXCEPT TR490/490PK)
R506	1-218-897-11	METAL CHIP	120K	0.50%	1/16W	(TR490/TR490PK)
R507	1-216-810-11	METAL CHIP	120	5%	1/16W	(TR490/TR490PK)
R511	1-218-881-11	METAL CHIP	27K	0.50%	1/16W	(EXCEPT TR490/490PK)

Ref. No.	Part No.	Description				Remarks
R511	1-218-875-11	METAL CHIP	15K	0.50%	1/16W	(TR490/TR490PK)
R512	1-216-864-11	METAL CHIP	0	5%	1/16W	
R513	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	(TR490/TR490PK)
R514	1-216-837-11	METAL CHIP	22K	5%	1/16W	(EXCEPT TR490/490PK)
R514	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	(TR490/TR490PK)
R515	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	(EXCEPT TR490/490PK)
R515	1-216-813-11	METAL CHIP	220	5%	1/16W	(TR490/TR490PK)
R516	1-218-897-11	METAL CHIP	120K	0.50%	1/16W	(TR490/TR490PK)
R517	1-216-857-11	METAL CHIP	1M	5%	1/16W	(EXCEPT TR490/490PK)
R517	1-216-853-11	METAL CHIP	470K	5%	1/16W	(TR490/TR490PK)
R519	1-216-833-11	METAL CHIP	10K	5%	1/16W	(EXCEPT TR490/490PK)
R519	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	(TR490/TR490PK)
R522	1-216-817-11	METAL CHIP	470	5%	1/16W	
R523	1-216-833-11	METAL CHIP	10K	5%	1/16W	(EXCEPT TR490/490PK)
R523	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	(TR490/TR490PK)
R526	1-216-817-11	METAL CHIP	470	5%	1/16W	(TR490/TR490PK)
R527	1-216-853-11	METAL CHIP	470K	5%	1/16W	(TR490/TR490PK)
R528	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	(TR490/TR490PK)
R529	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	(TR490/TR490PK)
R531	1-216-817-11	METAL CHIP	470	5%	1/16W	
R532	1-216-817-11	METAL CHIP	470	5%	1/16W	(TR490/TR490PK)
R533	1-216-864-11	METAL CHIP	0	5%	1/16W	
R537	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	(TR490/TR490PK)
R556	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R557	1-216-841-11	METAL CHIP	47K	5%	1/16W	(TR490/TR490PK)
R558	1-216-841-11	METAL CHIP	47K	5%	1/16W	(TR490/TR490PK)
R601	1-216-001-00	METAL CHIP	10	5%	1/10W	
R603	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R604	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R605	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R606	1-216-836-11	METAL CHIP	18K	5%	1/16W	
R607	1-216-848-11	METAL CHIP	180K	5%	1/16W	
R608	1-216-848-11	METAL CHIP	180K	5%	1/16W	
R609	1-216-848-11	METAL CHIP	180K	5%	1/16W	
R610	1-216-830-11	METAL CHIP	5.6K	5%	1/16W	
R611	1-216-815-11	METAL CHIP	330	5%	1/16W	

Ref. No.	Part No.	Description				Remarks
R612	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R613	1-216-834-11	METAL CHIP	12K	5%	1/16W	
R614	1-216-834-11	METAL CHIP	12K	5%	1/16W	
R615	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R616	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R618	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R619	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R620	1-216-823-11	METAL CHIP	1.5K	5%	1/16W	
R621	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R623	1-216-864-11	METAL CHIP	0	5%	1/16W	
R628	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R629	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R630	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R631	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R632	1-216-848-11	METAL CHIP	180K	5%	1/16W	
R701	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R702	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R703	1-216-857-11	METAL CHIP	1M	5%	1/16W	
R704	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R706	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R707	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R708	1-216-864-11	METAL CHIP	0	5%	1/16W	
R709	1-218-847-11	METAL CHIP	1K	0.50%	1/16W	
R710	1-218-876-11	METAL CHIP	16K	0.50%	1/16W	
R719	1-216-818-11	METAL CHIP	560	5%	1/16W	
R720	1-216-818-11	METAL CHIP	560	5%	1/16W	
R721	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R722	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R723	1-216-818-11	METAL CHIP	560	5%	1/16W	
R724	1-216-818-11	METAL CHIP	560	5%	1/16W	
R725	1-216-864-11	METAL CHIP	0	5%	1/16W	
R726	1-216-846-11	METAL CHIP	120K	5%	1/16W	
R727	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R728	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R729	1-216-864-11	METAL CHIP	0	5%	1/16W	
R730	1-216-864-11	METAL CHIP	0	5%	1/16W	
R732	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R733	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R734	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R735	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R737	1-216-864-11	METAL CHIP	0	5%	1/16W	(TR74/TR84/TR94/TR490/TR490PK)
R740	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R741	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R742	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R743	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R744	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R745	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R751	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R756	1-216-864-11	METAL CHIP	0	5%	1/16W	
R757	1-216-864-11	METAL CHIP	0	5%	1/16W	
R760	1-216-864-11	METAL CHIP	0	5%	1/16W	

Ref. No.	Part No.	Description			Remarks
R761	1-216-813-11	METAL CHIP	220	5%	1/16W
R775	1-216-829-11	METAL CHIP	4.7K	5%	1/16W

< SWITCH >

Ref. No.	Part No.	Description
S301	1-692-088-41	SWITCH, TACTILE (EDIT SEARCH +)
S302	1-692-088-41	SWITCH, TACTILE (EDIT SEARCH -)
S303	1-692-088-41	SWITCH, TACTILE (PLAY)
S304	1-692-088-41	SWITCH, TACTILE (PAUSE)
S305	1-692-088-41	SWITCH, TACTILE (REW)
S306	1-692-088-41	SWITCH, TACTILE (FF)
S307	1-692-088-41	SWITCH, TACTILE (STOP)

< VIBRATOR >

Ref. No.	Part No.	Description
X400	1-760-314-11	VIBRATOR, CRYSTAL 11.718MHz
X701	1-760-320-11	VIBRATOR, CRYSTAL 28.375MHz

A-7092-696-A VF-100 BOARD,COMPLETE
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(EXCEPT TR54/TR64/TR84)
(Ref.No.4,000 Series)

< CAPACITOR >

Ref. No.	Part No.	Description			Remarks
C901	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C902	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C903	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C904	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C905	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C906	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C907	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C908	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C909	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C910	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C911	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C913	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C914	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C915	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C917	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C920	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C921	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C925	1-162-995-11	CERAMIC CHIP	0.022uF		50V
C926	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C927	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C928	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C929	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C930	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C931	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C932	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C933	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C934	1-165-320-11	CERAMIC CHIP	0.47uF	10%	16V
C935	1-135-179-21	TANTAL. CHIP	2.2uF	20%	16V
C936	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C937	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C938	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C939	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C940	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C941	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V
C942	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C943	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C947	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C948	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C949	1-135-178-11	TANTAL. CHIP	1.5uF	20%	20V
C950	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C951	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C953	1-164-346-11	CERAMIC CHIP	1uF		16V
C954	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C956	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C970	1-162-974-11	CERAMIC CHIP	0.01uF		50V

< CONNECTOR >

Ref. No.	Part No.	Description
CN901	1-766-345-21	CONNECTOR, FFC/FPC 15P
* CN902	1-573-984-11	CONNECTOR, BOARD TO BOARD 10P
CN903	1-766-346-21	CONNECTOR, FFC/FPC 16P

< DIODE >

Ref. No.	Part No.	Description
D901	8-713-102-80	DIODE 1T369-01-T8A

< IC >

Ref. No.	Part No.	Description
IC901	8-752-067-59	IC CXA1785R-T4
IC902	8-752-378-00	IC CXD2411AR
IC903	8-759-355-92	IC AK9813AF-E2
IC904	8-759-075-66	IC TA75S01F

< COIL >

Ref. No.	Part No.	Description
L901	1-412-951-11	INDUCTOR 10uH
L902	1-412-962-11	INDUCTOR 82uH
L904	1-412-959-11	INDUCTOR 47uH
L905	1-412-949-21	INDUCTOR 6.8uH
L906	1-412-959-11	INDUCTOR 47uH

< TRANSISTOR >

Ref. No.	Part No.	Description
Q901	8-729-427-74	TRANSISTOR XP4601
Q902	8-729-402-42	TRANSISTOR UN5213

< RESISTOR >

Ref. No.	Part No.	Description			Remarks
R902	1-218-877-11	METAL CHIP	18K	0.50%	1/16W
R903	1-218-974-11	METAL GLAZE	56K	5%	1/16W
R904	1-218-989-11	METAL GLAZE	1M	5%	1/16W
R905	1-218-990-11	CONDUCTOR, CHIP (1005)			
R906	1-218-973-11	METAL GLAZE	47K	5%	1/16W
R907	1-218-965-11	METAL GLAZE	10K	5%	1/16W
R908	1-218-953-11	METAL GLAZE	1K	5%	1/16W
R910	1-218-946-11	METAL GLAZE	270	5%	1/16W
R911	1-218-990-11	CONDUCTOR, CHIP (1005)			
R912	1-218-953-11	METAL GLAZE	1K	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R914	1-218-964-11	METAL GLAZE	8.2K	5%	1/16W
R919	1-218-971-11	METAL GLAZE	33K	5%	1/16W
R920	1-218-971-11	METAL GLAZE	33K	5%	1/16W
R921	1-220-397-11	METAL GLAZE	4.7M	5%	1/16W
R922	1-218-971-11	METAL GLAZE	33K	5%	1/16W
R923	1-218-971-11	METAL GLAZE	33K	5%	1/16W
R924	1-218-957-11	METAL GLAZE	2.2K	5%	1/16W
R925	1-218-971-11	METAL GLAZE	33K	5%	1/16W
R926	1-218-973-11	METAL GLAZE	47K	5%	1/16W
R930	1-218-965-11	METAL GLAZE	10K	5%	1/16W
R931	1-218-971-11	METAL GLAZE	33K	5%	1/16W
R934	1-218-953-11	METAL GLAZE	1K	5%	1/16W
R936	1-218-877-11	METAL CHIP	18K	0.50%	1/16W
R937	1-218-905-11	METAL CHIP	270K	0.50%	1/16W
R938	1-218-981-11	METAL GLAZE	220K	5%	1/16W
R939	1-218-969-11	METAL GLAZE	22K	5%	1/16W
R943	1-218-990-11	CONDUCTOR, CHIP (1005)			
R947	1-218-939-11	METAL GLAZE	68	5%	1/16W
R948	1-218-939-11	METAL GLAZE	68	5%	1/16W
R949	1-218-939-11	METAL GLAZE	68	5%	1/16W
R953	1-218-972-11	METAL GLAZE	39K	5%	1/16W
R954	1-218-972-11	METAL GLAZE	39K	5%	1/16W
R959	1-218-976-11	METAL GLAZE	82K	5%	1/16W
R960	1-218-977-11	METAL GLAZE	100K	5%	1/16W
R961	1-218-982-11	METAL GLAZE	270K	5%	1/16W
R969	1-218-971-11	METAL GLAZE	33K	5%	1/16W
R970	1-218-971-11	METAL GLAZE	33K	5%	1/16W
R971	1-218-971-11	METAL GLAZE	33K	5%	1/16W
R973	1-218-971-11	METAL GLAZE	33K	5%	1/16W
R974	1-218-971-11	METAL GLAZE	33K	5%	1/16W
R975	1-218-974-11	METAL GLAZE	56K	5%	1/16W
R976	1-218-970-11	METAL GLAZE	27K	5%	1/16W
R979	1-218-981-11	METAL GLAZE	220K	5%	1/16W
R980	1-218-990-11	CONDUCTOR, CHIP (1005)			
R981	1-218-981-11	METAL GLAZE	220K	5%	1/16W
R982	1-218-981-11	METAL GLAZE	220K	5%	1/16W
R990	1-216-864-11	METAL CHIP	0	5%	1/16W

< VIBRATOR >

X901	1-579-466-11	VIBRATOR, CRYSTAL	3.58MHz

A-7092-696-A VF-101 BOARD, COMPLETE
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(EXCEPT TR54/TR64/TR84)
(Ref.No.4,000 Series)

< CAPACITOR >

C851	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C852	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C853	1-104-916-11	TANTAL. CHIP	6.8uF	20%	20V
C854	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C855	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C856	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C857	1-164-676-11	CERAMIC CHIP	2200PF	5%	16V
C858	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C859	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C860	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C865	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C867	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C868	1-165-128-11	CERAMIC CHIP	0.22uF		16V
C870	1-162-974-11	CERAMIC CHIP	0.01uF		50V

< CONNECTOR >

CN851	1-766-344-21	CONNECTOR, FFC/FPC 14P
CN852	1-766-349-21	CONNECTOR, FFC/FPC 19P
CN853	1-573-305-11	CONNECTOR, BOARD TO BOARD 10P

< DIODE >

D851	8-719-989-22	DIODE	CL-150R-CD
D852	8-719-033-15	DIODE	HN2D02FU-TE85R
D852	8-719-043-70	DIODE	MA6S121-(TX)

< IC >

IC851	8-759-097-75	IC	MB3789PFV-G-BND
IC852	8-759-510-71	IC	BA10358F-E2

< COIL >

L853	1-412-033-11	INDUCTOR CHIP	220uH

< TRANSISTOR >

Q853	8-729-028-81	TRANSISTOR	DTA123JUA

< RESISTOR >

R851	1-216-819-11	METAL CHIP	680	5%	1/16W
R852	1-218-973-11	METAL GLAZE	47K	5%	1/16W
R853	1-218-899-11	METAL CHIP	150K	0.50%	1/16W
R854	1-218-901-11	METAL CHIP	180K	0.50%	1/16W
R855	1-218-972-11	METAL GLAZE	39K	5%	1/16W
R856	1-218-899-11	METAL CHIP	150K	0.50%	1/16W
R857	1-218-903-11	METAL CHIP	220K	0.50%	1/16W
R858	1-218-973-11	METAL GLAZE	47K	5%	1/16W
R859	1-218-901-11	METAL CHIP	180K	0.50%	1/16W
R860	1-218-887-11	METAL CHIP	47K	0.50%	1/16W
R861	1-218-975-11	METAL GLAZE	68K	5%	1/16W
R862	1-218-970-11	METAL GLAZE	27K	5%	1/16W
R863	1-218-979-11	METAL GLAZE	150K	5%	1/16W
R864	1-218-973-11	METAL GLAZE	47K	5%	1/16W
R865	1-218-974-11	METAL GLAZE	56K	5%	1/16W
R867	1-218-982-11	METAL GLAZE	270K	5%	1/16W
R868	1-218-990-11	CONDUCTOR, CHIP (1005)			
R869	1-218-975-11	METAL GLAZE	68K	5%	1/16W
R870	1-218-974-11	METAL GLAZE	56K	5%	1/16W
R871	1-218-982-11	METAL GLAZE	270K	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R872	1-218-965-11	METAL GLAZE	10K	5%	1/16W
R873	1-218-983-11	METAL GLAZE	330K	5%	1/16W
R874	1-218-979-11	METAL GLAZE	150K	5%	1/16W
R875	1-218-954-11	METAL GLAZE	1.2K	5%	1/16W
R879	1-218-969-11	METAL GLAZE	22K	5%	1/16W
R881	1-218-985-11	METAL GLAZE	470K	5%	1/16W
R891	1-216-296-91	CONDUCTOR, CHIP (3216)			

A-7072-362-A VF-102 BOARD, COMPLETE(TR54/TR84)
****
(Ref.No.6,000 Series)

< CAPACITOR >

C902	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C903	1-135-091-91	TANTAL. CHIP	1uF	20%	16V
C904	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C905	1-104-752-11	TANTAL. CHIP	33uF	20%	6.3V
C906	1-162-638-11	CERAMIC CHIP	1uF		16V
C907	1-137-306-11	FILM CHIP	0.1uF	5%	16V
C908	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
⚠C910	1-164-758-11	CERAMIC CHIP	0.0039uF	5%	50V
⚠C911	1-164-715-11	CERAMIC CHIP	0.0068uF	5%	50V
C912	1-107-854-11	TANTAL. CHIP	68uF	20%	6.3V
C914	1-128-007-11	ELECT CHIP	2.2uF	20%	35V
C915	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C916	1-164-611-11	CERAMIC CHIP	0.001uF	10%	500V
C917	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C918	1-107-854-11	TANTAL. CHIP	68uF	20%	6.3V

< CONNECTOR >

CN901	1-566-537-11	CONNECTOR, FPC (NON ZIF) 5P
CN902	1-573-290-21	PIN, CONNECTOR (1.5MM)(SMD) 4P

< DIODE >

D901	8-719-951-21	DIODE	PR1102W
D903	8-719-404-49	DIODE	MA111

< IC >

IC901	8-759-196-14	IC	BA7149F-E2

< COIL >

L901	1-412-031-11	INDUCTOR CHIP 47uH
L902	1-410-387-11	INDUCTOR CHIP 33uH
⚠L903	1-402-680-21	COIL, FERRITE (HCL)

< TRANSISTOR >

Q901	8-729-120-28	TRANSISTOR	2SC1623-L5L6
Q902	8-729-106-68	TRANSISTOR	2SD1615A-GP
Q903	8-729-216-31	TRANSISTOR	2SA1163-G
Q904	8-729-120-28	TRANSISTOR	2SC1623-L5L6

Ref. No.	Part No.	Description			Remarks
		< RESISTOR >			
R901	1-216-817-11	METAL CHIP	470	5%	1/16W
R902	1-216-817-11	METAL CHIP	470	5%	1/16W
R903	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R904	1-216-833-11	METAL CHIP	10K	5%	1/16W
R905	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R906	1-216-813-11	METAL CHIP	220	5%	1/16W
R907	1-216-845-11	METAL CHIP	100K	5%	1/16W
R908	1-216-852-11	METAL CHIP	390K	5%	1/16W
R909	1-216-833-11	METAL CHIP	10K	5%	1/16W
R910	1-216-835-11	METAL CHIP	15K	5%	1/16W
R911	1-216-160-00	METAL GLAZE	27	5%	1/8W
R912	1-216-857-11	METAL CHIP	1M	5%	1/16W
R913	1-216-820-11	METAL CHIP	820	5%	1/16W
R914	1-216-813-11	METAL CHIP	220	5%	1/16W
R915	1-216-793-11	METAL GLAZE	4.7	5%	1/16W
R916	1-218-879-11	METAL CHIP	22K	0.50%	1/16W
R917	1-218-891-11	METAL CHIP	68K	0.50%	1/16W
R918	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R919	1-216-839-11	METAL CHIP	33K	5%	1/16W
R920	1-216-837-11	METAL CHIP	22K	5%	1/16W
R921	1-216-795-11	METAL GLAZE	6.8	5%	1/16W
R922	1-216-847-11	METAL CHIP	150K	5%	1/16W
R923	1-216-857-11	METAL CHIP	1M	5%	1/16W
R924	1-216-862-11	METAL GLAZE	2.7M	5%	1/16W
R925	1-216-862-11	METAL GLAZE	2.7M	5%	1/16W
R926	1-216-821-11	METAL CHIP	1K	5%	1/16W
R927	1-216-821-11	METAL CHIP	1K	5%	1/16W
R928	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R929	1-216-818-11	METAL CHIP	560	5%	1/16W
R930	1-216-815-11	METAL CHIP	330	5%	1/16W
R931	1-216-810-11	METAL CHIP	120	5%	1/16W
R933	1-216-811-11	METAL CHIP	150	5%	1/16W

< VARIABLE RESISTOR >

RV904	1-238-862-11	RES, ADJ, CERMET 1M

< TRANSFORMER >

⚠T901	1-453-124-11	TRANSFORMER ASSY, FLYBACK

< THERMISTOR >

TH901	1-809-350-21	THERMISTOR, NTC (2125)

< FLAT CABLE >

W901	1-540-019-21	SOCKET ASSY, CRT

Note:	**Note:**
The components identified by matk ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

LB-44 | VF-93

Ref. No.	Part No.	Description	Remarks
	A-7092-688-A	LB-44 BOARD, COMPLETE (TR64)	

****

(Ref.No.7,000 Series)

< FLUORESCENT TUBE >

Ref. No.	Part No.	Description
BL801	1-517-414-21	FLUORESCENT TUBE (0.55 INCH)

< CONNECTOR >

Ref. No.	Part No.	Description
CN801	1-573-812-11	CONNECTOR, BOARD TO BOARD 12P

Ref. No.	Part No.	Description
	A-7092-688-A	VF-93 BOARD, COMPLETE (TR64)

****

(Ref.No.7,000 Series)

< CAPACITOR >

Ref. No.	Part No.	Description			
C851	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C852	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C853	1-104-916-11	TANTAL. CHIP	6.8uF	20%	20V
C854	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C855	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C856	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C857	1-164-676-11	CERAMIC CHIP	2200PF	5%	16V
C858	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C859	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C860	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C861	1-104-917-11	TANTAL. CHIP	15uF	20%	20V
C862	1-165-178-11	CERAMIC CHIP	6.8uF		16V
C863	1-163-020-00	CERAMIC CHIP	0.0082uF	10%	50V
C864	1-163-020-00	CERAMIC CHIP	0.0082uF	10%	50V
C865	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C866	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C867	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C868	1-165-128-11	CERAMIC CHIP	0.22uF		16V
C869	1-163-020-00	CERAMIC CHIP	0.0082uF	10%	50V
C870	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C890	1-165-128-11	CERAMIC CHIP	0.22uF		16V

< CONNECTOR >

Ref. No.	Part No.	Description
CN851	1-766-344-21	CONNECTOR, FFC/FPC 14P
CN852	1-573-354-11	CONNECTOR, FFC/FPC 14P
CN853	1-573-811-11	CONNECTOR, BOARD TO BOARD 12P

< DIODE >

Ref. No.	Part No.	Description	
D851	8-719-951-21	DIODE	PR1102W
D852	8-719-043-70	DIODE	MA6S121-(TX)
D853	8-719-802-36	DIODE	1SS250

< IC >

Ref. No.	Part No.	Description	
IC851	8-759-097-75	IC	MB3789PFV-G-BND
IC852	8-759-701-01	IC	NJM2904M

< COIL >

Ref. No.	Part No.	Description
L851	1-412-033-11	INDUCTOR CHIP 220uH
L852	1-412-029-11	INDUCTOR CHIP 10uH
L853	1-412-033-11	INDUCTOR CHIP 220uH

< TRANSISTOR >

Ref. No.	Part No.	Description	
Q851	8-729-024-60	TRANSISTOR	MTD6N15T4
Q853	8-729-027-29	TRANSISTOR	DTA123JKA

< RESISTOR >

Ref. No.	Part No.	Description			
R851	1-216-819-11	METAL CHIP	680	5%	1/16W
R852	1-216-841-11	METAL CHIP	47K	5%	1/16W
R853	1-218-899-11	METAL CHIP	150K	0.50%	1/16W
R854	1-218-901-11	METAL CHIP	180K	0.50%	1/16W
R855	1-216-840-11	METAL CHIP	39K	5%	1/16W
R856	1-218-899-11	METAL CHIP	150K	0.50%	1/16W
R857	1-218-903-11	METAL CHIP	220K	0.50%	1/16W
R858	1-216-841-11	METAL CHIP	47K	5%	1/16W
R859	1-216-849-11	METAL CHIP	220K	5%	1/16W
R860	1-216-843-11	METAL CHIP	68K	5%	1/16W
R861	1-216-843-11	METAL CHIP	68K	5%	1/16W
R862	1-216-838-11	METAL CHIP	27K	5%	1/16W
R863	1-216-847-11	METAL CHIP	150K	5%	1/16W
R864	1-216-841-11	METAL CHIP	47K	5%	1/16W
R865	1-216-842-11	METAL CHIP	56K	5%	1/16W
R867	1-216-850-11	METAL CHIP	270K	5%	1/16W
R868	1-216-864-11	METAL CHIP	0	5%	1/16W
R869	1-218-893-11	METAL CHIP	82K	0.50%	1/16W
R870	1-218-885-11	METAL CHIP	39K	0.50%	1/16W
R871	1-216-850-11	METAL CHIP	270K	5%	1/16W
R872	1-216-833-11	METAL CHIP	10K	5%	1/16W
R873	1-216-851-11	METAL CHIP	330K	5%	1/16W
R874	1-216-847-11	METAL CHIP	150K	5%	1/16W
R875	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R878	1-216-809-11	METAL CHIP	100	5%	1/16W
R879	1-216-837-11	METAL CHIP	22K	5%	1/16W
R880	1-216-839-11	METAL CHIP	33K	5%	1/16W
R881	1-216-853-11	METAL CHIP	470K	5%	1/16W
R891	1-216-296-91	CONDUCTOR, CHIP (3216)			

< TRANSFORMER >

Ref. No.	Part No.	Description
⚠T851	1-426-848-51	TRANSFORMER, INVERTER

Ref. No.	Part No.	Description				Remarks
	A-7092-688-A	VF-94 BOARD, COMPLETE (TR64)				
		*********************				
			(Ref.No.7,000 Series)			
		< CAPACITOR >				
C901	1-162-974-11	CERAMIC CHIP	0.01uF		50V	
C902	1-162-974-11	CERAMIC CHIP	0.01uF		50V	
C903	1-162-974-11	CERAMIC CHIP	0.01uF		50V	
C904	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C905	1-107-682-11	CERAMIC CHIP	1uF	10%	16V	
C906	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V	
C907	1-107-682-11	CERAMIC CHIP	1uF	10%	16V	
C908	1-162-919-11	CERAMIC CHIP	22PF	5%	50V	
C909	1-162-974-11	CERAMIC CHIP	0.01uF		50V	
C910	1-162-974-11	CERAMIC CHIP	0.01uF		50V	
C911	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C913	1-164-156-11	CERAMIC CHIP	0.1uF		25V	
C914	1-162-974-11	CERAMIC CHIP	0.01uF		50V	
C915	1-162-974-11	CERAMIC CHIP	0.01uF		50V	
C917	1-162-974-11	CERAMIC CHIP	0.01uF		50V	
C920	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V	
C921	1-162-974-11	CERAMIC CHIP	0.01uF		50V	
C925	1-162-995-11	CERAMIC CHIP	0.022uF		50V	
C926	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V	
C927	1-162-974-11	CERAMIC CHIP	0.01uF		50V	
C928	1-163-077-00	CERAMIC CHIP	0.1uF		50V	
C929	1-163-077-00	CERAMIC CHIP	0.1uF		50V	
C930	1-163-077-00	CERAMIC CHIP	0.1uF		50V	
C931	1-162-974-11	CERAMIC CHIP	0.01uF		50V	
C932	1-162-974-11	CERAMIC CHIP	0.01uF		50V	
C933	1-164-156-11	CERAMIC CHIP	0.1uF		25V	
C934	1-165-320-11	CERAMIC CHIP	0.47uF	10%	16V	
C935	1-135-179-21	TANTAL. CHIP	2.2uF	20%	16V	
C936	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V	
C937	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V	
C938	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C939	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C940	1-162-927-11	CERAMIC CHIP	100PF	5%	50V	
C941	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V	
C942	1-162-974-11	CERAMIC CHIP	0.01uF		50V	
C943	1-164-156-11	CERAMIC CHIP	0.1uF		25V	
C947	1-162-974-11	CERAMIC CHIP	0.01uF		50V	
C948	1-162-974-11	CERAMIC CHIP	0.01uF		50V	
C949	1-135-178-11	TANTAL. CHIP	1.5uF	20%	20V	
C950	1-162-974-11	CERAMIC CHIP	0.01uF		50V	
C951	1-162-974-11	CERAMIC CHIP	0.01uF		50V	
C953	1-164-346-11	CERAMIC CHIP	1uF		16V	
C954	1-162-974-11	CERAMIC CHIP	0.01uF		50V	
C956	1-162-974-11	CERAMIC CHIP	0.01uF		50V	
C961	1-164-156-11	CERAMIC CHIP	0.1uF		25V	
C970	1-162-974-11	CERAMIC CHIP	0.01uF		50V	

Ref. No.	Part No.	Description				Remarks
		< CONNECTOR >				
CN901	1-573-354-11	CONNECTOR, FFC/FPC 14P				
* CN902	1-573-984-11	CONNECTOR, BOARD TO BOARD 10P				
* CN903	1-573-356-11	CONNECTOR, FFC/FPC 16P				
		< DIODE >				
D901	8-713-102-80	DIODE 1T369-01-T8A				
D903	8-719-404-49	DIODE MA111				
		< IC >				
IC901	8-752-067-59	IC CXA1785R-T4				
IC902	8-752-369-16	IC CXD2411R				
IC903	8-759-251-40	IC MB88E346PFV-G-BND-ER				
IC904	8-759-075-66	IC TA75S01F				
		< COIL >				
L901	1-412-951-11	INDUCTOR 10uH				
L902	1-412-962-11	INDUCTOR 82uH				
L904	1-412-959-11	INDUCTOR 47uH				
L905	1-412-949-21	INDUCTOR 6.8uH				
L906	1-412-962-11	INDUCTOR 82uH				
		< TRANSISTOR >				
Q901	8-729-402-84	TRANSISTOR XN4601				
Q902	8-729-402-42	TRANSISTOR UN5213				
		< RESISTOR >				
R902	1-218-877-11	METAL CHIP	18K	0.50%	1/16W	
R903	1-216-842-11	METAL CHIP	56K	5%	1/16W	
R904	1-216-857-11	METAL CHIP	1M	5%	1/16W	
R905	1-216-864-11	METAL CHIP	0	5%	1/16W	
R906	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R907	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R908	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R910	1-216-814-11	METAL CHIP	270	5%	1/16W	
R911	1-216-864-11	METAL CHIP	0	5%	1/16W	
R912	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R914	1-216-832-11	METAL CHIP	8.2K	5%	1/16W	
R919	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R920	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R921	1-220-397-11	METAL GLAZE	4.7M	5%	1/16W	
R922	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R923	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R924	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R925	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R926	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R930	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R931	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R934	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R936	1-218-875-11	METAL CHIP	15K	0.50%	1/16W	
R937	1-218-905-11	METAL CHIP	270K	0.50%	1/16W	
R938	1-216-849-11	METAL CHIP	220K	5%	1/16W	

Ref. No.	Part No.	Description				Remarks
R939	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R943	1-216-864-11	METAL CHIP	0	5%	1/16W	
R947	1-216-807-11	METAL CHIP	68	5%	1/16W	
R948	1-216-807-11	METAL CHIP	68	5%	1/16W	
R949	1-216-807-11	METAL CHIP	68	5%	1/16W	
R953	1-216-840-11	METAL CHIP	39K	5%	1/16W	
R954	1-216-840-11	METAL CHIP	39K	5%	1/16W	
R959	1-216-844-11	METAL CHIP	82K	5%	1/16W	
R960	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R961	1-216-850-11	METAL CHIP	270K	5%	1/16W	
R969	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R970	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R971	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R973	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R974	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R975	1-216-842-11	METAL CHIP	56K	5%	1/16W	
R976	1-216-838-11	METAL CHIP	27K	5%	1/16W	
R979	1-216-849-11	METAL CHIP	220K	5%	1/16W	
R980	1-216-864-11	METAL CHIP	0	5%	1/16W	
R981	1-216-849-11	METAL CHIP	220K	5%	1/16W	
R982	1-216-849-11	METAL CHIP	220K	5%	1/16W	
R990	1-216-864-11	METAL CHIP	0	5%	1/16W	

< VIBRATOR >

X901	1-579-466-11	OSCILLATOR, CRYSTAL 3.58MHz

MISCELLANEOUS
****

61	1-542-259-11	MICROPHONE, CAP
66	1-775-517-11	CABLE, FLEXIBLE FLAT 8P
103	1-775-520-11	CABLE, FLEXIBLE FLAT 45P
120	1-775-519-11	CABLE, FLEXIBLE FLAT 4P
158	1-657-866-11	FP-283 FLEXIBLE BOARD(TR54/TR84)
⚠159	1-452-673-11	CRT ASSY (M01KXX90WB)(TR54/TR84)
164	8-753-015-20	LCX005BK-1 (EXCEPT TR54/TR84)
171	1-656-480-11	FP-291 FLEXIBLE BOARD(EXCEPT TR54/TR84)
203	1-775-518-11	CABLE, FLEXIBLE FLAT 12P
207	1-775-516-11	CABLE, FLEXIBLE FLAT 16P
209	1-547-739-21	LENS, ZOOM (VCL-5412WB)
211	1-547-558-21	FILTER BLOCK, OPTICAL(EXCEPT TR84/TR94)
211	1-547-735-51	FILTER BLOCK, OPTICAL(TR84/TR94)
218	1-775-833-11	CABLE, FLEXIBLE FLAT 18P(TR490/TR490PK)
762	1-657-786-11	FP-221 FLEXIBLE BOARD
803	1-657-785-11	FP-248 FLEXIBLE BOARD
817	1-657-784-11	FP-220 FLEXIBLE BOARD
D001	8-719-988-42	DIODE GL453S
M901	A-7048-804-A	DRUM BLOCK ASSY(DGH-0C1A)
M902	8-835-531-01	MOTOR, DC SCE-0601A (CAPSTAN)
M903	X-3945-401-1	MOTOR ASSY, DC (LOADING)
S901	1-762-436-11	SWITCH, ROTARY (ENCODER)

ACCESSORIES & PACKING MATERIALS
****

Ref. No.	Part No.	Description	Remarks
⚠	A-7003-839-A	AC-V15 AC POWER(US/Canadian)	
⚠	A-7003-840-A	AC-V15 AC POWER(E)	
⚠	A-7003-843-A	AC-V15 AC POWER(Tourist)	
⚠	A-7003-969-A	AC-V15 AC POWER(Hong Kong)	
	A-7092-608-A	CASE (N) ASSY, BATTERY (TR54:Canadian/TR64:Canadian/ TR74:Canadian/TR94:Canadian)	
	A-7092-697-A	CASE (N) ASSY (2), BATTERY (TR54:US/TR64:US/TR74:US/TR84/TR94:US)	
	1-473-342-11	REMOTE COMMANDER (RMT-713)	
	1-528-692-11	DRY, BATTERY CARBON-ZINC	
⚠	1-569-008-11	ADAPTER, CONVERSION 2P (TR440/TR440PK/TR490/TR490PK)	
	1-574-039-11	CORD, CONNECTION(AV)1.5m (EXCEPT TR490/TR490PK)	
	1-575-334-11	CORD, CONNECTION (AV STEREO)1.5m (TR490/TR490PK)	
	3-336-764-01	SHEET, PROTECTION (TR440PK/TR490PK)	
*	3-704-291-01	BAG (STANDARD), PROTECTION (TR440PK/TR490PK)	
	3-800-475-11	MANUAL, INSTRUCTION (ENGLISH/SPANISH) (TR440/TR440PK/TR490/TR490PK)	
	3-800-475-21	MANUAL, INSTRUCTION (ENGLISH) (TR54/TR64/TR74/TR84/TR94)	
	3-800-475-31	MANUAL, INSTRUCTION (FRENCH) (TR54:Canadian/TR64/TR74:Canadian /TR94:Canadian)	
	3-800-475-41	MANUAL, INSTRUCTION (CHINESE) (TR440/TR440PK/TR490/TR490PK)	
	3-947-969-21	BELT (S), SHOULDER	
*	3-966-372-01	CUSHION, PULP (EXCEPT TR440PK/TR490PK)	
	3-966-551-11	CASE, BATTERY (TR54:US/TR64:US/TR74:US/TR84/TR94:US)	
*	3-966-371-81	INDIVIDUAL CARTON (TR54)	
*	3-966-371-91	INDIVIDUAL CARTON (TR84)	
*	3-966-893-11	INDIVIDUAL CARTON (TR74)	
*	3-966-893-21	INDIVIDUAL CARTON (TR94)	
	3-969-029-61	INDIVIDUAL CARTON (TR64)	
	3-967-166-01	CASE (330), SOFT (TR490PK)	
*	3-968-092-01	PAT, PROTECTION (TR440PK/TR490PK)	
	3-969-566-01	LABEL, NUMBER (BATTERY CASE) (TR54:US/TR64:US/TR74:US/TR84/TR94:US)	
**	NP-33	BATTERY PACK	

NOTE.
**MARK PARTS IS AVAILABLE AS AN OPTIONAL ACCESSORY.

Note:	Note:
The components identified by matk ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

1-1-2. Precautions

1. Switch settings

Adjust the switches to the following positions without loading the cassette tape unless otherwise specified.

1) Camera/video power switch
   Operation switch block .... Camera
2) PROGRAM AE switch (CF-40 board S489) .... AUTO
3) STEADY SHOT switch (CF-40 board S486) .... OFF
4) D ZOOM switch (CF-40 board S300) .... OFF
5) REC MODE switch (CF40 board S483) .... SP

2. Adjustment sequence

Adjust in the given order.

3. Subject

1) Set the camera and pattern box as shown in Fig. 6-1-2.
2) Color bar chart (Standard picture frame)

- Adjust the picture frame as shown in Fig. 6-1-3.
- Adjust camera zooming and direction until the camera output waveform on the oscilloscope shown in Fig. 6-1-3 (a) and the color picture on the monitor TV shown in Fig. 6-1-3 (b) have been acquired.
- Maintain this setup until adjustment is complete.

3) White pattern (Standard picture frame)
   Remove the color bar chart from the pattern box and adjust the camera setup until the white pattern picture frame is the same size and same position as the color bar chart (the standard picture frame).

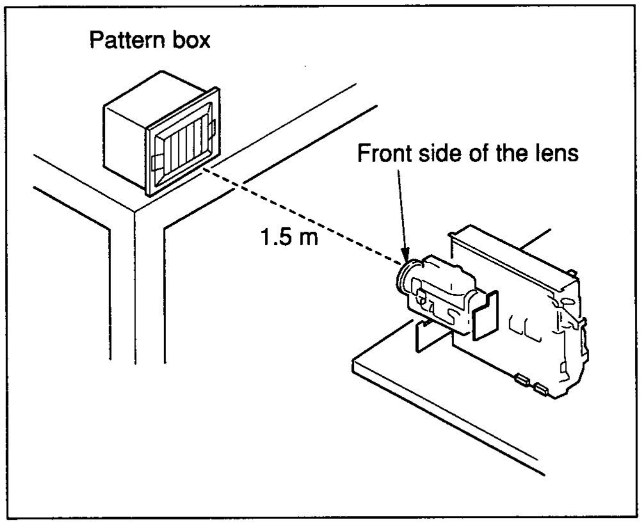
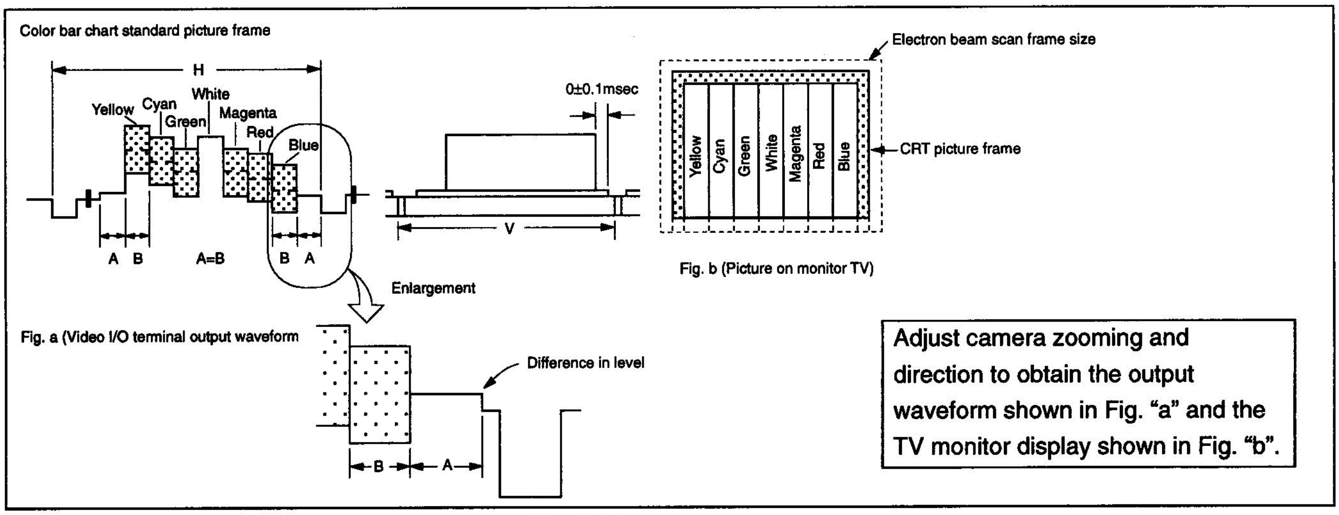

Pattern box
Front side of the lens
1.5 m

Fig. 6-1-2


Color bar chart standard picture frame
H
Yellow
Cyan
White
Green
Magenta
Red
Blue
A
B
A=B
B
A
0±0.1msec
V
Enlargement
Fig. a (Video I/O terminal output waveform
Difference in level
B
A
Electron beam scan frame size
Yellow
Cyan
Green
White
Magenta
Red
Blue
CRT picture frame
Fig. b (Picture on monitor TV)

Adjust camera zooming and direction to obtain the output waveform shown in Fig. "a" and the TV monitor display shown in Fig. "b".

Fig. 6-1-3

4) Chart for flange back adjustment
   Join together a piece of white A0 size paper (1189 mm × 841 mm) and a piece of black paper to make the chart shown in Fig. 6-1-4.

Note : Use a non-reflecting and non-glazing vellum paper. The size must be A0 or larger and the joint between the white and black paper must not have any undulations.

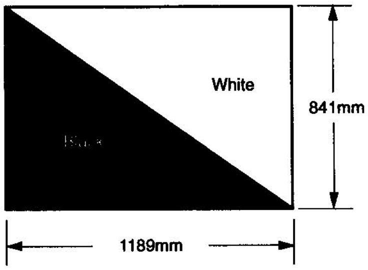

White
Black
841mm
1189mm

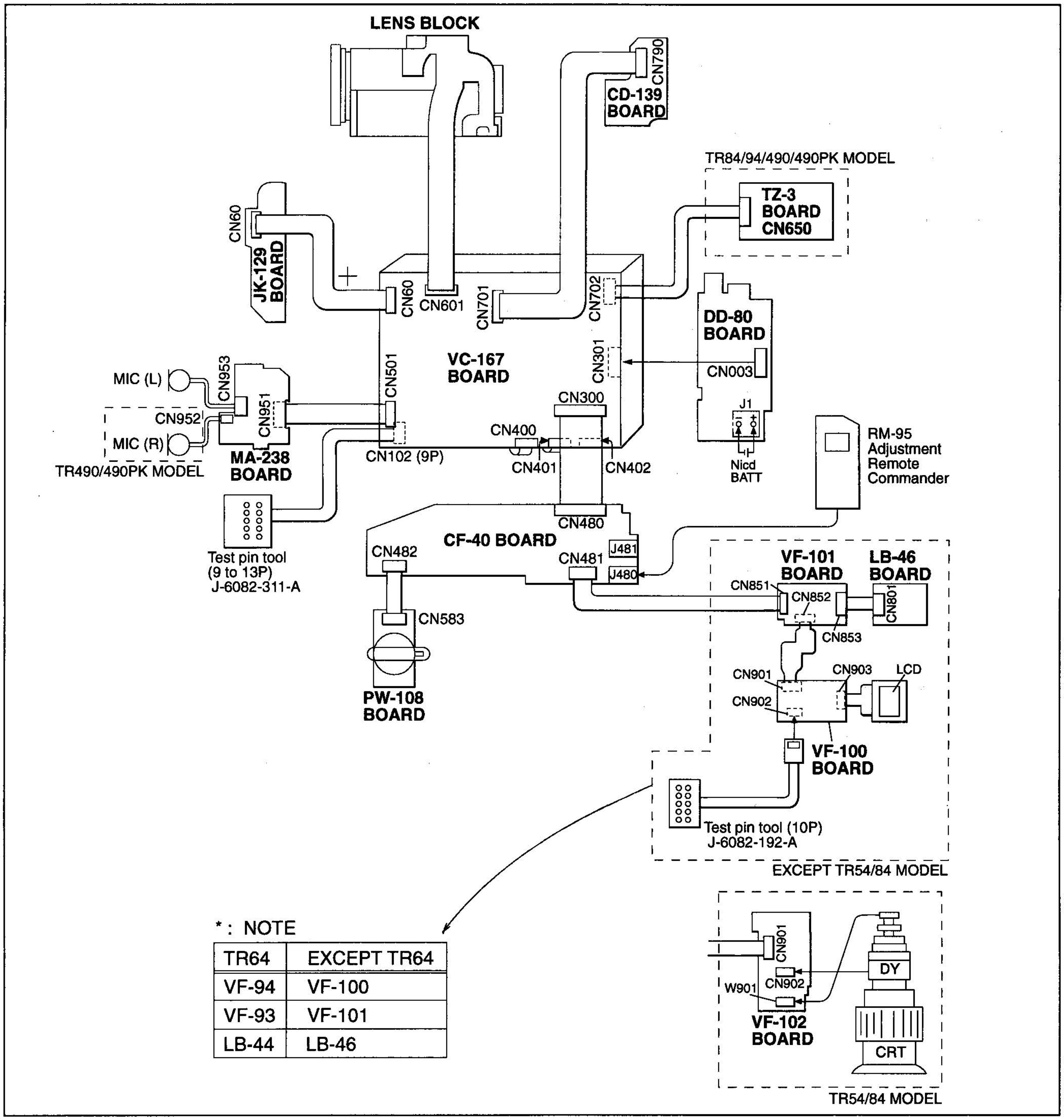
Fig. 6-1-4

1-1-3. Preparations

Note 1: Refer to “2. Disassembly” for details of how to remove the cabinet and the respective boards.

Note 2: Removal of the lens block and VC-167 board is not necessary if only adjustments are to be made.

1) Connect the adjustment equipment as shown in Fig. 6-1-5.



LENS BLOCK
CN790
CD-139 BOARD
TR84/94/490/490PK MODEL
TZ-3 BOARD CN650
CN60
JK-129 BOARD
CN60
CN601
CN701
CN702
DD-80 BOARD
CN003
J1
Nicd BATT
MIC (L)
CN953
CN952
MIC (R)
CN951
TR490/490PK MODEL
MA-238 BOARD
CN501
VC-167 BOARD
CN301
CN300
CN400
CN102 (9P)
CN401
CN402
RM-95 Adjustment Remote Commander
Test pin tool (9 to 13P) J-6082-311-A
CN480
CF-40 BOARD
CN482
CN481
J481
J480
CN583
PW-108 BOARD
VF-101 BOARD
LB-46 BOARD
CN851
CN852
CN801
CN853
CN901
CN903
LCD
CN902
VF-100 BOARD
Test pin tool (10P) J-6082-192-A
EXCEPT TR54/84 MODEL
CN901
W901
CN902
DY
VF-102 BOARD
CRT
TR54/84 MODEL

* : NOTE

TR64	EXCEPT TR64
VF-94	VF-100
VF-93	VF-101
LB-44	LB-46

Fig. 6-1-5.

1-1-4. Adjustment remote commander (RM-95 upgraded)

To perform adjustment, the adjustment data stored in the non-volatile memory must be rewritten using the adjustment remote commander (RM-95 upgraded).

The adjustment remote commander uses the remote commander signal line (LANC) to interactively communicate with the merchandise. The page, address and up/down command data are sent from the adjustment remote commander to the merchandise. In return, the page, address and data are sent to the adjustment remote commander from the merchandise.

1. Using the adjustment remote commander

1) Connect the adjustment remote commander to the LANC terminal (CF-40 board J480).
2) Set the NOR-ADJ (or HOLD) switch of the adjustment remote commander to the "ADJ" (or ON) (service) position.
   If the adjustment remote commander is correctly connected, the adjustment remote commander's LED will show the display as shown in Fig. 6-1-6.
3) Bit value discrimination
   It is necessary to discriminate between the bit values with the data displayed on the adjustment remote commander for all following items. Identify whether the bit value is '1' or '0' with the use of the following diagram.

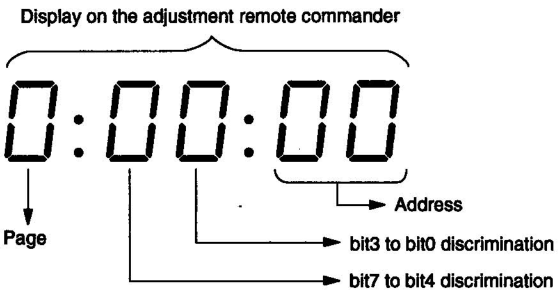

Display on the adjustment remote commander
0:00:00
Page
Address
bit3 to bit0 discrimination
bit7 to bit4 discrimination

Fig 6-1-6

	Display on the adjustment remote commander	Bit values			
		bit3 or bit7	bit2 or bit6	bit1 or bit5	bit0 or bit4
	0	0	0	0	0
	1	0	0	0	1
	2	0	0	1	0
	3	0	0	1	1
	4	0	1	0	0
	5	0	1	0	1
	6	0	1	1	0
	7	0	1	1	1
Ⓐ	8	1	0	0	0
	9	1	0	0	1
	A(A)	1	0	1	0
	B(b)	1	0	1	1
	C(C)	1	1	0	0
	D(d)	1	1	0	1
Ⓑ	E(E)	1	1	1	0
	F(F)	1	1	1	1

(example) If "8E" is displayed on the adjustment remote commander, the bit values for bit7 to bit4 are shown in the 'Ⓐ' column, and the bit values for bit3 to bit0 are shown in the 'Ⓑ' column.

4) The adjustment remote controller is operated as follows:

- Changing the page

  The pages increase when the EDIT SEARCH (+) button is pressed and decrease when the EDIT SEARCH (-) button is pressed. Altogether there are 16 pages from page "0" to page "F".

Hexadecimal notation	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
LCD display	0	1	2	3	4	5	6	7	8	9	A	b	C	d	E	F
Decimal notation after conversion	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

- Changing the address

  The address increases when the FF (▶▶) button is pressed, and decreases when the REW (◀◀) button is pressed. Altogether there are 256 addresses from address "00" to address "FF". Some addresses, which are not used during adjustment, do not appear.

- Taking note the already-stored adjustment data

  The previous adjustment can be erased if the adjustment remote commander is incorrectly handled. To prevent this, it is recommended that all the stored adjustment data be noted down on the attached page F address list.

- Changing the data (Data setting)

  The data increases when the PLAY (▶) button is pressed, and decreases when the STOP (■) button is pressed. Altogether there 256 data from data "00" to data "FF".

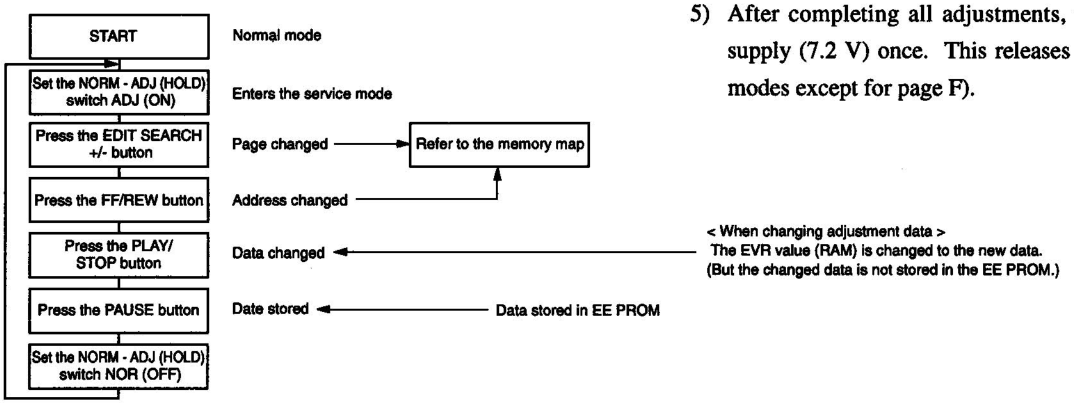
- Storing the data

  Press the PAUSE button to store the adjustment data (page F) into the non-volatile memory.

  (If the PAUSE button is not pressed after completing the adjustment, the new adjustment data will not be stored in the non-volatile memory.)

5) After completing all adjustments, turn off the main power supply (7.2 V) once. This releases the adjustment mode (all modes except for page F).

[Sequence of Service Modes Using the Adjustment Remote Commander]


START
Normal mode
Set the NORM - ADJ (HOLD) switch ADJ (ON)
Enters the service mode
Press the EDIT SEARCH +/- button
Page changed
Refer to the memory map
Press the FF/REW button
Address changed
Press the PLAY/ STOP button
Data changed
< When changing adjustment data >
The EVR value (RAM) is changed to the new data.
(But the changed data is not stored in the EE PROM.)
Press the PAUSE button
Date stored
Data stored in EE PROM
Set the NORM - ADJ (HOLD) switch NOR (OFF)

Command Name	Command Function	Normal LANC Command
Page Up	Page + 1	Edit Search +
Page Down	Page - 1	Edit Search -
Direct Page Set	Sets the specified page	Event Clear
Address Up	Address + 1	Fast Forward
Address Down	Address - 1	Rewind
Data Up	Data + 1	Play Back
Data Down	Data - 1	Stop
Store	Stores data in the EE PROM.	Pause

2. Precautions when using the adjustment remote commander

Mishandling of the adjustment remote commander may erase the correct adjustment data which has already been stored in the memory. To prevent this, it is recommended that all adjustment data is noted down on the attached page F address list before starting adjustments in addition to all new adjustment data after the completion of each adjustment step.

Page F Address List

Note 1: Data already stored in the adjustment data memo column are fixed values.

Note 2: The initial adjustment data values are the values which exist immediately after the execution of "F Page Data Initialization" and "F Page Data Modification". These differ from the values which exist after all adjustment have been performed.

Note 3: There are cases where data has been entered into F page addresses between 8C and EF, but these are not related to the adjustments.

Address	Adjustment Data	
	Initial Value	Memo Column
00	00	00
01	00	00
02	00	00
03	02	04
04	10	10
05	E0	E0
06	10	10
07	00	00
08	04	04
09	00	00
0A	FF	
0B	08	
0C	00	
0D	00	
0E	00	
0F	00	
10	00	
11	00	
12	80	
13	40	
14	40	
15	80	
16	80	
17	B9	
18	80	
19	53	
1A	7D	
1B	85	
1C	80	
1D	64	
1E	80	
1F	9E	
20	8E	
21	85	
22	C6	
23	C1	
24	58	
25	60	
26	80	

Address	Adjustment Data	
	Initial Value	Memo Column
27	80	
28	48	
29	40	
2A	80	
2B	80	
2C	40	
2D	00	
2E	2D	
2F	D3	
30	2D	
31	FC	
32	F5	
33	00	
34	3C	
35	00	
36	3E	
37	E0	
38	8F	
39	6C	
3A	36	
3B	3C	
3C	A3	
3D	0D	
3E	8E	
3F	12	
40	47	
41	10	
42	80	
43	80	
44	94	94
45	66	66
46	00	00
47	55	55
48	80	80
49	77	77
4A	80	80
4B	77	77
4C	80	80
4D	76	76

Address	Adjustment Data	
	Initial Value	Memo Column
4E	80	80
4F	76	76
50	80	80
51	80	80
52	80	80
53	A8	A8
54	CC	CC
55	3C	3C
56	1B	1B
57	80	80
58	80	80
59	80	80
5A	79	79
5B	4C	4C
5C	17	17
5D	32	32
5E	23	23
5F	45	45
60	16	16
61	A2	A2
62	A3	A3
63	BA	BA
64	2E	2E
65	09	09
66	66	66
67	05	05
68	66	66
69	9F	9F
6A	66	66
6B	66	66
6C	59	59
6D	83	83
6E	67	67
6F	5D	5D
70	5C	5C
71	4A	4A
72	1E	1E
73	5C	5C
74	3A	3A
75	33	33
76	00	00
77	1B	1B
78	E8	E8
79	30	30
7A	10	10
7B	6A	6A
7C	58	58
7D	44	44

Address	Adjustment Data	
	Initial Value	Memo Column
7E	33	33
7F	05	05
80	07	07
81	03	03
82	40	40
83	56	56
84	5D	5D
85	60	60
86	04	04
87	0F	0F
88	10	10
89	0A	0A
8A	38	38
8B	B0	B0
8C~E3		
E4~EF		
F0~FF		

1-2. CAMERA SYSTEM ADJUSTMENTS

1. Adjustment points when major parts have been replaced

When the CCD imager or lens block is replaced, adjust the items indicated by ○ in the following table.

	When the CCD imager is replaced	When the lens block is replaced
HALL adjustment		○
CCD imager compensation data writing	○	
Flange back adjustment	○	○
IRIS IN/OUT adjustment	○	○
MAX GAIN adjustment	○	
Color reproduction adjustment	○	
Auto white balance reference data input	○	
Auto white balance adjustment	○	

2. Power supply voltage check (VC-167 board)

Subject	Any subject
Measuring equipment	Digital voltmeter
DIG5V check	
Measurement Point	CN300 ㊶ Pin (CN300 ㊳, ㊴ Pin: MT GND)
Specification Value	4.86±0.15Vdc
DIG3.5V check	
Measurement Point	CN300 ㉚ Pin (CN300 ㉛, ㉜ Pin: VTR GND)
Specification Value	3.16±0.1Vdc
CAM15V check	
Measurement Point	CN701 ⑯ Pin (CN701 ① Pin: GND)
Specification Value	14.95±0.4Vdc
CAM-8.5V check	
Measurement Point	CN701 ⑭ Pin (CN701 ① Pin: GND)
Specification Value	-8.5±0.5Vdc

Check procedure

1) Check that all power supply voltages satisfy the specified value.
If not, refer to "Video circuit, Power supply block adjustment".

3. Preparation for adjustment

Objective: Make sure that the camera can be operated from the LANC line even if the mode control microprocessor's A/D port is left open.

Mode	Any Mode
Measuring Equipment	Remote controller RM-95 upgraded for LANC
Adjustment Page	Page 6, page F
Adjustment Address	00, 02

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Turn the main power switch ON.
2	6	00	01	After setting the data, press the PAUSE button.
3	F	02	21	After setting the data, press the PAUSE button.
4				Turn off the UNREG power supply once, then turn it on.
5	6	00	00	After setting the data, press the PAUSE button.

Note 1: If data 01 is set to page 6, address 00, the adjustment for page F, address 01 to 8B can also be performed.

Note 2: When all adjustments of the camera system is completed, set data 00 to the page F, address 02.

4. Initialization of page F data

Note 1: Execute the initialization of page F only when the non-volatile memory (VC-167 board IC401 EE PROM) is replaced.

Note 2: If the page F data has been initialized, all adjustment items of the camera section must be executed again.

Initializing procedure:

Order	Page	Address	Data	Procedure
1				Turn OFF and ON the main power supply. (Preparation)
2	6	00	01	After setting the data 01 to the address, press the PAUSE button.
	6	11		Confirm that the data is 00.
3	6	01	2D	After setting the data, Press the PAUSE button. (Execution of page F data initialization. By this operation, all the data from address 01 to EF are initialized.)
4	6	11		Confirm that the data is 01.

Works required after initialization

Order	Page	Address	Data	Procedure
1	6	01	00	After setting the data, Press the PAUSE button.
2	6	00	00	After setting the data, Press the PAUSE button. (End)
				Perform the next item "5. Page F Data Modifications", then execute all adjustment items of the camera section.

Related Adjustments:

All items of camera adjustment excluding "28 MHz Crystal Oscillator Adjustment".

CCD-TR54/TR64/TR74/TR84/TR94/ TR440/TR440PK/TR490/TR490PK

9-973-838-11

Sony Corporation
Consumer A&V Products Company
Personal A&V Products Div.

English
95L1636-1
Printed in Japan
© 1995.12
Published by Personal A&V Products Div.
Quality Engineering Dept.

CCD-TRV32/TRV34/TRV34PK/TRV44/TRV52/TRV53/TRV312/TRV512(NTSC)
CCD-TRV14E/TRV24E/TRV44E(PAL)
RMT-713

SERVICE MANUAL

US Model
CCD-TRV32/TRV52/TRV53/
TRV312/TRV512(NTSC)
Canadian Model
CCD-TRV53(NTSC)
AEP Model
UK Model
CCD-TRV14E/TRV24E(PAL)
E Model
CCD-TRV34/TRV34PK/TRV44(NTSC)
CCD-TRV14E/TRV24E/TRV44E(PAL)
Australian Model
CCD-TRV14E/TRV24E/TRV44E(PAL)
Hong Kong Model
CCD-TRV34/TRV44(NTSC)
CCD-TRV14E/TRV24E/TRV44E(PAL)
Tourist Model
CCD-TRV34(NTSC)
CCD-TRV14E/TRV24E/TRV44E(PAL)

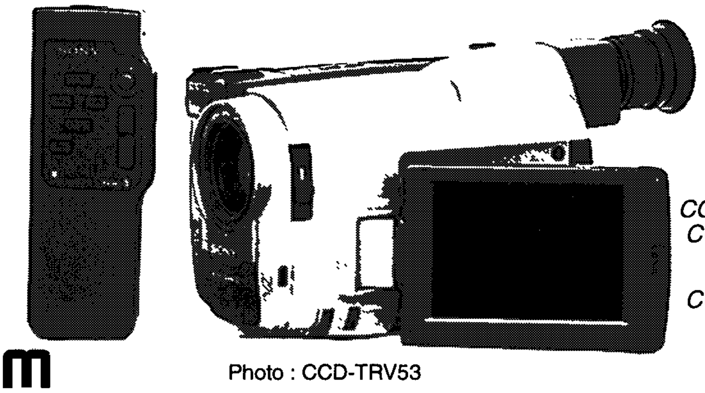


Photo : CCD-TRV53

video 8
Handycam

B MECHANISM

- CCD-TRV34PK is model that carring bag are added in CCD-TRV34.
- CCD-TRV34PK is different from CCD-TRV34 only in the accessory and packing materials.

For MECHANISM ADJUSTMENT, refer to the "8mm Video MECHANICAL ADJUSTMENT MANUAL Ⅶ " (9-973-801-11).

SPECIFICATIONS

Video camera recorder

System

Video recording system
Two rotary heads, Helical scanning, FM system

Audio recording system
Rotary heads, FM system

Usable cassette
8 mm video format cassette (standard 8 mm)

Recording/Playback time
SP mode: 1 hour and 30 minutes (P5-90)
LP mode: 3 hours (P5-90)

Fastforward/rewind time
Approx. 5 min. (P5-90)

Image device
CCD (Charge Coupled Device)

Colour temperature
Auto

Recommended illumination
More than 100 lx

LCD screen

On-screen display
TN LCD/TFT active matrix method

Input and Output connectors

Video output
Phono jack, 1 Vp-p, 75 ohm, unbalanced

RFU DC OUT
Special minijack, DC 5 V

LANC control jack
Stereo mini-minijack (ø 2.5 mm)

MIC jack
Minijack, 0.388 mV, low impedance with 2.5 to 3 V DC output, impedance 6.8 kilohm (ø 3.5 mm)

Speaker
Dynamic-speaker

General

Power requirements
7.5 V (AC power adaptor)

Operating temperature
0°C to 40°C (32°F to 104°F)

Storage temperature
–20°C to +60°C (–4°F to +140°F)

Dimensions
Approx. 112 x 102 x 201 mm (4 1/2 x 4 1/8 x 8 inches) (w/h/d)

Microphone
Electret condenser microphone, monaural type

AC power adaptor

Power requirements
110 – 240 V AC, 50/60Hz

Power consumption
AC-V16/V17: 20 W
AC-V16A/V17A: 22 W

Output voltage
DC OUT in operation mode 7.5 V, 1.8 A
Battery charge terminal 10 V, 1.1 A in charge mode

Operating temperature
0°C to 40°C (32°F to 104°F)

Storage temperature
–20°C to +60°C (–4°F to +140°F)

Dimensions (Approx.)
166 x 43 x 75 mm (6 5/8 x 1 11/16 x 3 inches) (w/h/d) including projecting parts and controls

Mass (Approx.)
AC-V16: 420 g (15 oz)
AC-V16A: 450 g (16 oz)
AC-V17: 440 g (16 oz)
AC-V17A: 460 g (16 oz)

Design and specifications are subject to change without notice.

— Continued on next page —

8 VIDEO CAMERA RECORDER

MICROFILM

997393911

SONY®

NTSC MODEL

<table>
<tr><th>Model</th><th>TRV32</th><th>TRV34</th><th>TRV44</th><th>TRV52</th><th>TRV53</th><th>TRV312</th><th>TRV512</th></tr>
<tr><td>Video signal</td><td colspan="7">NTSC color,EIR standards</td></tr>
<tr><td>Viewfinder
Electronic viewfinder</td><td colspan="4">Black and white</td><td>Colour</td><td colspan="2">Black and white</td></tr>
<tr><td>Lens
Combined power zoom lens, F1.4-2.4
Filter diameter 37mm (1 1/2inches)</td><td>15×(Optical), 30×(Digital)</td><td colspan="2">15×(Optical), 180×(Digital)</td><td colspan="4">15×(Optical), 30×(Digital)</td></tr>
<tr><td>Forcal distance
f=4.1-61.5mm (3/16-2 1/2inches)</td><td colspan="7">When converted to 35mm still camera
47-705mm (1 7/8-27 7/8inches)</td></tr>
<tr><td>Minimum illumination</td><td>2 lux at F1.4</td><td colspan="2">0.7 lux at F1.4</td><td colspan="4">2 lux at F1.4</td></tr>
<tr><td>Illumination range</td><td>2 to 100,000 lux</td><td colspan="2">0.7 to 100,000 lux</td><td colspan="4">2 to 100,000 lux</td></tr>
<tr><td>Picture</td><td colspan="2">3 inches measured diagonally
59.5 × 43.2mm(2 3/8 × 1 3/4inches)</td><td colspan="2">3.5 inches measured diagonally
72.4×0.38mm(2 7/8 × 2inches)</td><td colspan="2">3 inches measured diagonally
59.5×43.2mm(2 3/8×1 3/4inches)</td><td>3.5 inches measured diagonally
72.4 ×50.38mm(2 7/8 × 2inches)</td></tr>
<tr><td>Total dot number</td><td colspan="2">86,622(383 × 234)</td><td colspan="2">105,380 (479 × 220)</td><td colspan="2">86,622 (383 × 234)</td><td>105,380 (479 × 220)</td></tr>
<tr><td>Audio output
327mV, (at load impedance 47 kilohm),
impedance less than 2.2 kilohm</td><td>Monaural,Phone jack
Mini jack</td><td colspan="3">Phone jack
(2 :stereo L and R)</td><td colspan="2">Monaural,Phone jack
Mini jack</td><td>Phone jack
(2: stereo L and R)</td></tr>
<tr><td>Earphone jack</td><td>MIni jack</td><td colspan="3">×</td><td colspan="2">MIni jack</td><td>×</td></tr>
<tr><td>Headphone jack</td><td>×</td><td colspan="3">Stereo mini jack</td><td colspan="2">×</td><td>Stereo mini jack</td></tr>
<tr><td>Average power consumption
During camera recording using the LCD</td><td colspan="2">4.7W</td><td colspan="2">5W</td><td colspan="2">4.7W</td><td>5W</td></tr>
<tr><td>Average power consumption
During camera recording using the viewfinder</td><td colspan="3">3.5W</td><td>3.6W</td><td colspan="2">3.5W</td><td>3.6W</td></tr>
<tr><td>Mass (Approx.)</td><td colspan="2">2 id 1 oz (950g) Excluding the batter pack , lithium battery, cassette and shoulder strap
2 id 7 oz (1.2kg) Including the battery pack NP-33, lithium battery CR2025, cassette P6-120 and shoulder strap</td><td colspan="2">2 id 1 oz (960g) Excluding the batter pack,ithium battery, cassette and shoulder strap
2 id 7 oz (1.2kg) Including the battery pack NP-33, lithium battery CR2025, cassette P6-120 and shoulder strap</td><td colspan="2">2 id 1 oz (950g)
Excluding the batter pack, lithium battery, cassette and shoulder strap
2 id 7 oz (1.2kg)
Including the battery pack NP-33,lithium battery CR2025, cassette P6-120 and shoulder strap</td><td>2 id 1 oz (960g) Excluding the batter pack, lithium battery, cassette and shoulder strap
2 id 7 oz (1.2kg)
Including the battery pack NP-33, lithium battery CR2025,cassette P6-120 andshoulder strap</td></tr>
<tr><td>Application</td><td>Sony battery pack
NP-33(supplied),
NP-60D, NP-C65, NP-68,
NP-80/80D, NP-98/98D</td><td colspan="2">Sony battery pack
NP-33(supplied),
NP-55H, NP-C65, NP-66,
NP-67, NP-77H, NP-98</td><td colspan="4">Sony battery pack
NP-33(supplied),
NP-60D, NP-C65, NP-68,
NP-80/80D, NP-98/98D</td></tr>
</table>

PAL MODEL

<table>
<tr><th>Model</th><th>TRV14E</th><th>TRV24E</th><th>TRV44</th></tr>
<tr><td>Video signal</td><td colspan="3">PAL color, CCIR standards</td></tr>
<tr><td>Viewfinder
Electronic viewfinder</td><td colspan="3">Black and white</td></tr>
<tr><td>Lens
Combined power zoom lens, F1.4-2.4
Filter diameter 37mm (1 1/2inches)</td><td>15× (Optical)
When converted to 35mm</td><td>15× (Optical), 30× (Digital)</td><td>15× (Optical), 180× (Digital)</td></tr>
<tr><td>Forcal distance
f=4.1-61.5mm (3/16-2 1/2inches)</td><td>still camera 39-585mm
(1 19/16-23 1/8inches)</td><td colspan="2">When converted to 35mm still camera
47-705mm(1 7/8-27 7/8inches)</td></tr>
<tr><td>Minimum illumination</td><td>0.4 lux at F1.4</td><td colspan="2">0.7 lux at F1.4</td></tr>
<tr><td>Illumination range</td><td>0.4 to 100,000 lux</td><td colspan="2">0.7 to 100,000 lux</td></tr>
<tr><td>Picture</td><td>2.5 inches measured diagonally
50.2 × 37.1mm(2 × 1 1/2inches)</td><td>2.5 inches measured diagonally
50.3 × 37.4mm(2 × 1 1/2inches)</td><td>3.5 inches measured diagonally
72.4×50.38mm(2 7/8 × 2inches)</td></tr>
<tr><td>Total dot number</td><td colspan="2">61,600(280 × 220)</td><td>105,380(479 × 220)</td></tr>
<tr><td>Audio output
327mV, (at load impedance 47 kilohm),
impedance less than 2.2 kilohm</td><td colspan="2">Monaural, Phone jack</td><td>Phone jack (2 : stereo L and R)</td></tr>
<tr><td>Earphone jack</td><td colspan="2">Mini jack</td><td>×</td></tr>
<tr><td>Headphone jack</td><td colspan="2">×</td><td>Stereo mini jack</td></tr>
<tr><td>Average power consumption
During camera recording using the LCD</td><td>4.2W</td><td>4.5W</td><td>5W</td></tr>
<tr><td>Average power consumption
During camera recording using the viewfinder</td><td>3.3W</td><td colspan="2">3.5W</td></tr>
<tr><td>Mass (Approx.)</td><td colspan="2">1 id 15 oz (890g)
Excluding the batter pack. lithium battery, cassette and shoulder strap
2 id 6 oz (1.1kg)
Including the battery pack NP-33, lithium battery CR2025, cassette P5-90 and shoulder strap</td><td>2 id 1 oz (960g)
Excluding the batter pack, lithium battery, cassette and shoulder strap
2 id 7 oz (1.2kg)
Including the battery pack NP-33,lithium battery CR2025, cassette P6-120 and shoulder strap</td></tr>
<tr><td>Application</td><td colspan="3">Sony battery pack
NP-33(supplied), NP-55H,
NP-C65, NP-66, NP-67,
NP-77H, NP-98</td></tr>
</table>

• Table for difference of functions

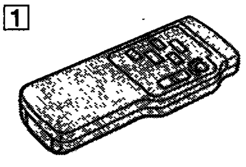
Model	TRV32	TRV312	TRV34	TRV44	TRV52	TRV512	TRV53	TRV14E	TRV24E	TRV44E
Signal	NTSC	NTSC	NTSC	NTSC	NTSC	NTSC	NTSC	PAL	PAL	PAL
Destination	US	US	E/HK/JE	E/HK	US	US	US/CND	AEP/UK/E/AUS/HK/JE	AEP/UK/E/AUS/HK/JE	E/AUS/HK/JE
Viewfinder	B/W	B/W	B/W	B/W	B/W	B/W	COLOR	B/W	B/W	B/W
Steady shot	○	○	○	○	○	○	×	×	○	○
Digital zoom	○ (30 ×)	○ (30 ×)	○ (180 ×)	○ (180 ×)	○ (30 ×)	○ (30 ×)	○ (30 ×)	×	○ (180 ×)	○ (180 ×)
Wide mode	○	○	○	○	○	○	○	×	○	○
Audio	MONO	MONO	STEREO	STEREO	STEREO	STEREO	MONO	MONO	MONO	STEREO
IR	×	×	×	×	×	×	○	×	×	×
LCD	3	3	3	3.5	3.5	3.5	3	2.5	2.5	3.5

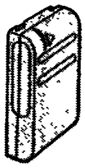
Abbreviation

CND :	Canadian model	IR :	Infrared communication
AUS :	Australian model	B/W :	Black and white
HK :	Hong Kong model		
JE :	Tourist model		

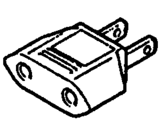
Checking supplied accessories

Check that the following accessories are supplied with your camcorder.

1


2


3

9


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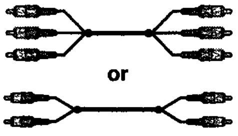
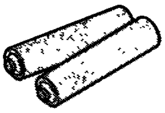
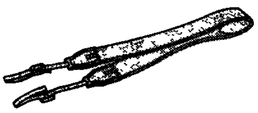
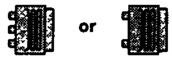
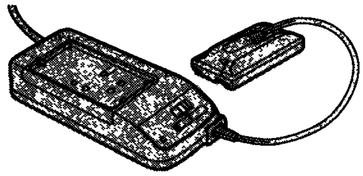
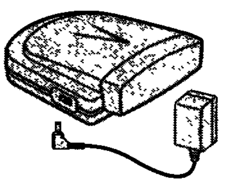


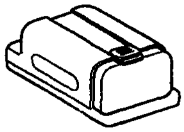
5


6


10


7


8


11


1 **Wireless Remote Commander (1)**

2 **NP-33 Battery Pack (1)**

3 **CR2025 Lithium Battery (1)**
Already installed in the camcorder.

4 **A/V connecting cable (1)**

5 **R6 (size AA) battery for Remote Commander (2)**

6 **Shoulder strap (1)**

7 **AC-V16/V16A/V17/V17A AC power adaptor (1)**

8 **AV cordless IR receiver (1) and AC power adaptor (1)**
CCD-TRV53 only

9 **Adaptor conversion 2P (1)**
Hong Kong only

10 **21-pin adaptor (1)**
AEP only

11 **Battery case (1)**

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈSES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPÉMENTS PUBLIÉS PAR SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer.

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, par-ticularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, through functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replace-ment.
5. Check the B+ voltage to see it is at the values specified.
6. Flexible Circuit Board Repairing
   - Keep the temperature of the soldering iron around 270°C during repairing.
   - Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
   - Be careful not to apply force on the conductor when soldering or unsoldering.

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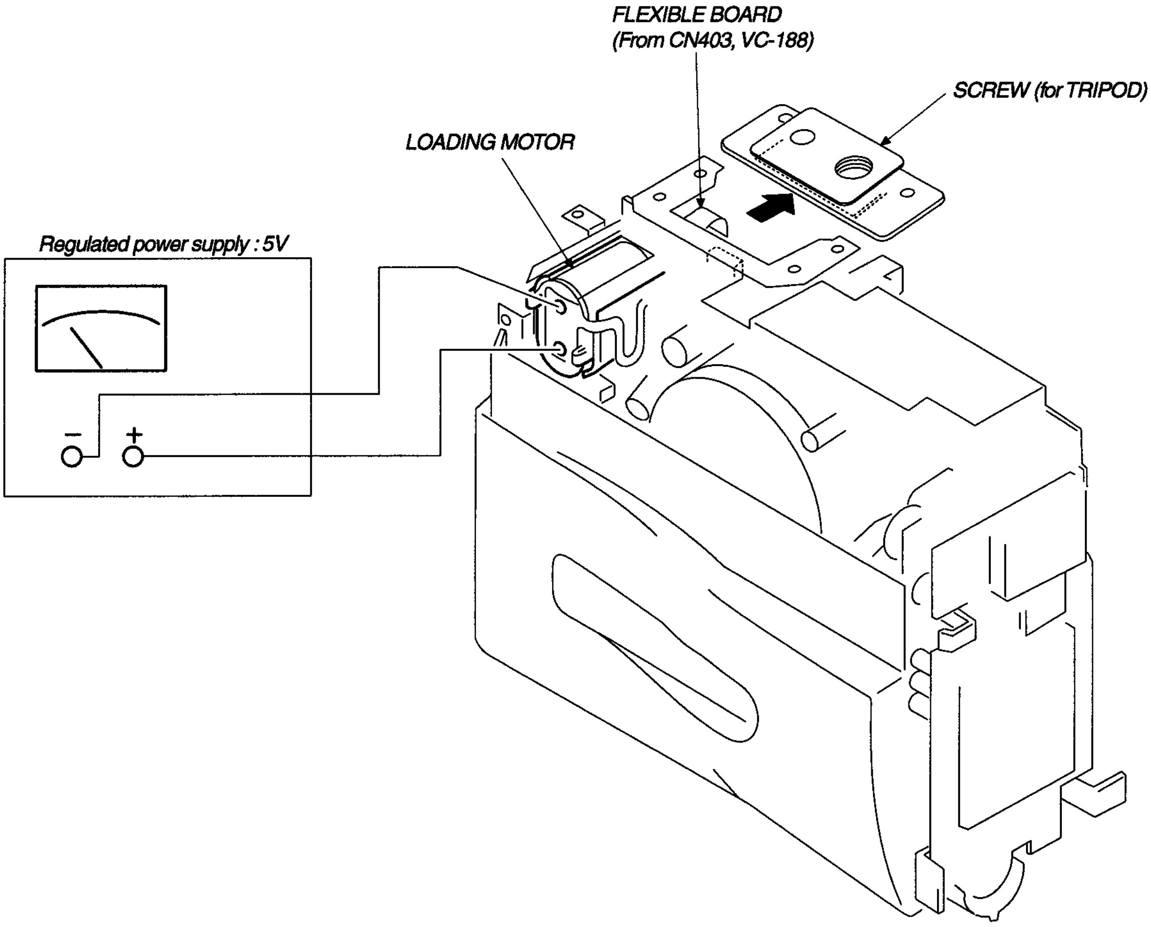
* The color reproduction frame is shown after the page of ARRANGEMENT DIAGRAM FOR ADJUSTMENT PARTS.

SERVICE NOTE

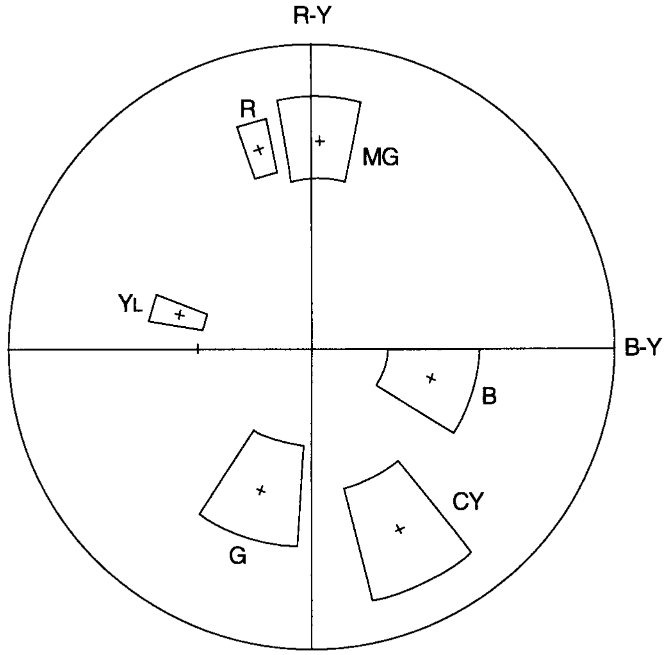
NOTE : To eject a cassette from the camcorder without turning on the main power, firstly remove the SCREW (for TRIPOD), then remove the FLEXIBLE BOARD as shown, and finally connect the regulated power supply ; +5V to the loading motor, this is to protect the main circuit from damage.


FLEXIBLE BOARD
(From CN403, VC-188)
SCREW (for TRIPOD)
LOADING MOTOR
Regulated power supply : 5V
–
+

FOR CAMERA COLOR REPRODUCTION ADJUSTMENT

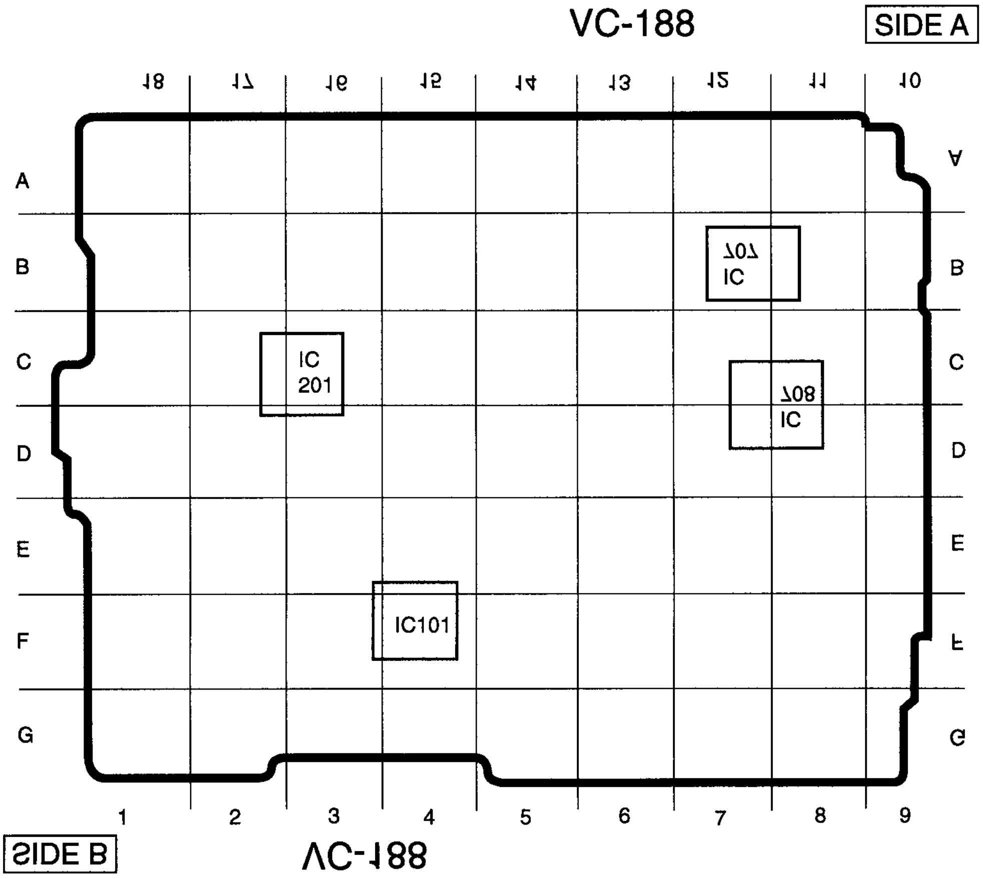
(NTSC 760H)

Take a copy of CAMERA COLOR REPRODUCTION FRAME and Parts referencesheets with a clear sheet for use.


R-Y
R
MG
YL
B-Y
B
CY
G

⟨PARTS REFERENCE SHEET⟩

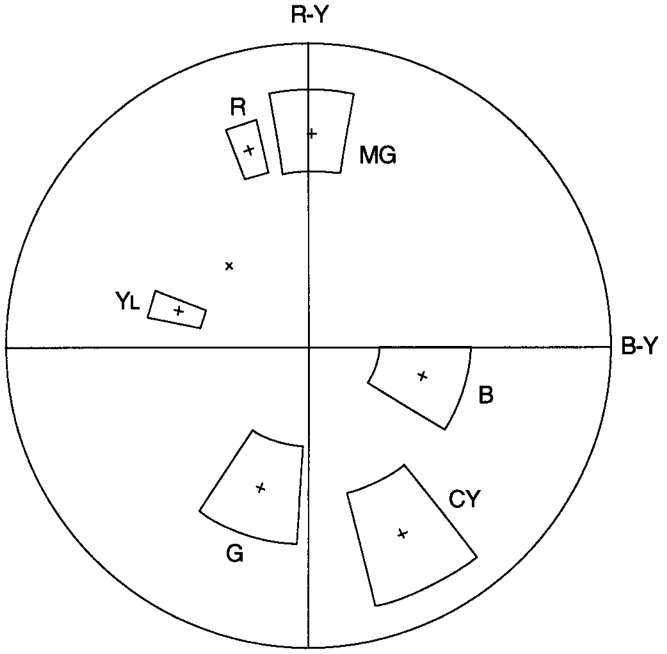
You can find the parts position of location of mount locations applying to VC-188 board of a set.


VC-188
SIDE A
A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
IC 201
IC101
IC 107
IC 108
SIDE B
VC-188

FOR CAMERA COLOR REPRODUCTION ADJUSTMENT

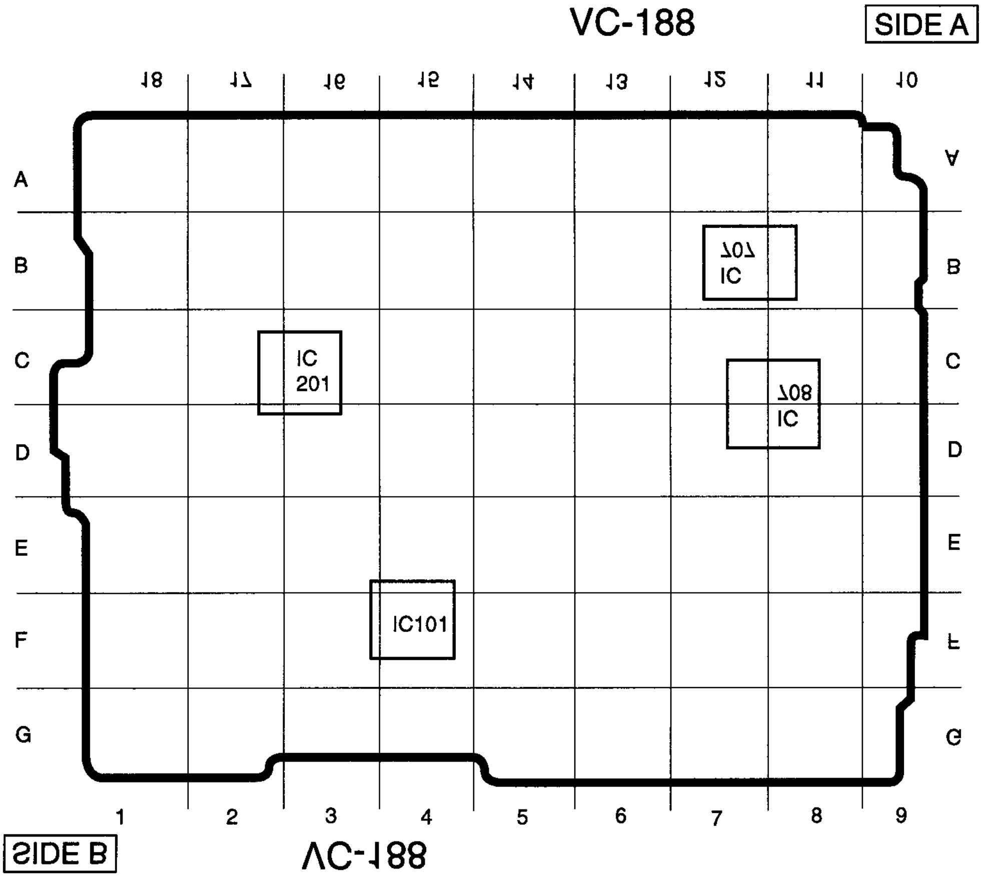
Take a copy of CAMERA COLOR REPRODUCTION FRAME and Parts referencesheets with a clear sheet for use.

(PAL 510H/760H)


R-Y
R
MG
YL
B-Y
B
CY
G

⟨PARTS REFERENCE SHEET⟩

You can find the parts position of location of mount locations applying to VC-188 board of a set.


VC-188
SIDE A
18
17
16
15
14
13
12
11
10
A
B
C
D
E
F
G
IC 201
IC 702
IC 708
IC101
1
2
3
4
5
6
7
8
9
SIDE B
VC-188

9-973-939-11

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Personal A&V Products Company

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SECTION 1
GENERAL

This section is extracted from instruction manual.(CCD-TRV14E/TRV24E)

Charging and installing the battery pack

Before using your camcorder, you first need to charge and install the battery pack To charge the battery pack, use the supplied AC power adaptor

Charging the battery pack

Charge the battery pack on a flat place without vibration.

(1) Connect the AC power adaptor to the mains

(2) Align the right side of the battery pack with the line on the AC power adaptor, then slide the battery pack in the direction of the arrow

(3) Set the selector to CHARGE The CHARGE lamp (orange) lights up Charging begins

When charging is completed, the CHARGE lamp goes out Unplug the unit from the mains, and then remove the battery pack and install it on the camcorder

Зарядка и установка батарейного блока

Перед пользованием Вашей видеокамерой Вам следует сначала зарядить и установить батарейный блок. Для зарядки батарейного блока воспользуйтесь прилагаемым сетевым адаптером перем. тока.

Зарядка батарейного блока

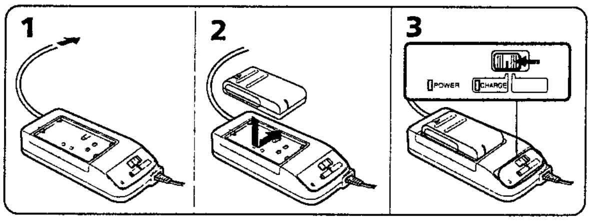
Зарядку батарейного блока производите на ровной поверхности, не подверженной вибрации.

(1) Подсоедините сетевой шнур адаптера перем тока к электрической сети

(2) Установите правую сторону батарейного блока на одной линии с сетевым адаптером перем. тока, затем передвиньте батарейный блок в направлении стрелки.

(3) Установите селектор в положение CHARGE. Загорится лампочка CHARGE (оранжевая). Начнется зарядка.

Когда зарядка завершится, лампочка CHARGE погаснет Отключите аппарат от электрической сети, а затем снимите батарейный блок и установите его на видеокамеру.



Charging Time (in minutes)

Battery pack	Charging time*
NP-33 (supplied)	60
NP-55H	85
NP-C65/67	105
NP-66	95
NP-77H	170
NP-98	215

* Approximate minutes to charge an empty battery pack using the supplied AC power adaptor (Lower temperatures require a longer charging time.)

Время зарядки (в минутах)

Батарейный блок	Время зарядки*
NP-33 (прилагается)	60
NP-55H	85
NP-C65/67	105
NP-66	95
NP-77H	170
NP-98	215

* Приблизительно в минутах для зарядки разряженного батарейного блока с использованием прилагаемого сетевого адаптера перем тока. (При низких температурах время зарядки удлиняется.)

Charging and installing the battery pack

Notes on charging the battery pack

- The POWER lamp will remain lit for a while even if the battery pack is removed and the mains lead is unplugged after charging the battery pack. This is normal.
- If the POWER lamp does not light, set the selector to VTR (DC OUT) and disconnect the mains lead. After about one minute, reconnect the mains lead and set the selector to CHARGE again.
- You cannot operate the camcorder using the AC power adaptor while charging the battery pack.

Installing the battery pack

(1) Insert the top of the battery pack into the top of the battery mounting surface.

(2) Push the battery pack. Make sure that you hear clicks twice.
Attach the battery pack to the camcorder securely

Зарядка и установка батарейного блока

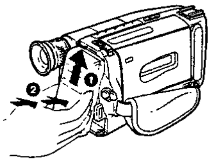
Примечания по зарядке батарейного блока

- Лампочка POWER будет некоторое время светиться, даже если батарейный блок снят и сетевой провод отключен после зарядки батарейного блока. Это является нормальным.
- Если лампочка POWER не загорается, установите селектор в положение VTR (DC OUT) и отсоедините сетевой провод. Примерно через минуту вновь подсоедините сетевой провод и опять установите селектор в положение CHARGE
- Вы не можете управлять видеокамерой с использованием сетевого адаптера перем. тока во время зарядки батарейного блока

Установка батарейного блока

(1) Вставьте верхний конец батарейного блока в верхнюю часть батарейной установочной поверхности.

(2) Нажмите на батарейный блок. Убедитесь, чтобы Вы услышали дважды щелчок.
Прикрепите надежно батарейный блок к видеокамере.



Note on the battery pack
Do not carry the camcorder by grasping the battery pack.

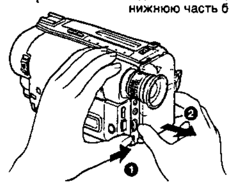
To remove the battery pack

Slide BATT, and then pull the lower part of the battery pack.

Примечание относительно батарейного блока
Не переносите видеокамеру путем захвата ее за батарейный блок.

Для снятия батарейного блока

Сдвиньте BATT, а затем потяните за нижнюю часть батарейного блока.



You can look at the demonstration of the functions available with this camcorder (p. 31)

Вы можете взглянуть на демонстрацию функций, имеющихся для данной видеокамеры. (стр. 31)

Inserting a cassette

Make sure that a power source is installed.

(1) While pressing the small blue button, slide EJECT in the direction of the arrow The cassette compartment automatically opens

(2) Insert a cassette (not supplied) with the window facing out.

(3) Press the PUSH mark on the cassette compartment to close it. The cassette compartment automatically closes.

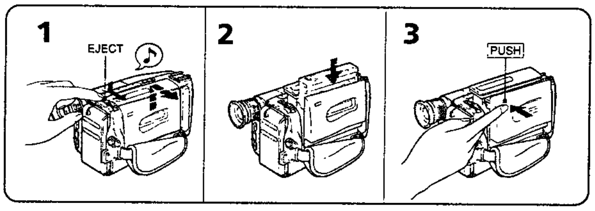
Вставка кассеты

Убедитесь, что источник питания установлен.

(1) Нажимая маленькуую синюю кнопку, сдвиньте EJECT в направлении стрелки. Отсек кассеты автоматически открывается.

(2) Вставьте кассету (не прилагается) окошком, обращенным наружу.

(3) Нажмите метку PUSH на отсеке кассеты для его закрытия. Отсек кассеты автоматически закрывается.



To eject the cassette

While pressing the small blue button, slide EJECT in the direction of the arrow

To prevent accidental erasure

Slide the tab on the cassette to expose the red mark.

If you insert the cassette with the red mark exposed and close the cassette compartment, the beeps sound for a while If you try to record with the red mark exposed, the 📼 and ⏏ indicators flash, and you cannot record.

To re-record on this tape, slide the tab back out covering the red mark

Для выталкивания кассеты

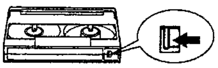
Нажимая маленькую синюю кнопку, сдвиньте EJECT в направлении стрелки.

Для предотвращения случайного стирания

Передвиньте лепесток на кассете, чтобы появилась красная метка.

Если Вы вставите кассету при выставленной красной метке и закроете отсек кассеты, то зазвучит зуммерный сигнал. Если Вы попытаетесь записывать при выставленной красной метке, будут мигать индикаторы 📼 и ⏏, и Вы не сможете призвести запись.

Для перезаписи на данную ленту передвиньте лепесток назад, чтобы закрыть красную метку.



Camera recording

Make sure that a power source and a cassette is inserted and that the START/STOP MODE switch inside the LCD panel is set to ♙ .

When you use the camcorder for the first time, power on it and reset the date and time to your time (p. 55) before you start recording The date is automatically recorded for 10 seconds after you start recording **(AUTO DATE feature)** This feature works only once a day.

Before you record one-time events, you may want to make a trial recording to make sure that you are using the camcorder correctly.

(1) While pressing the small green button on the POWER switch, set it to CAMERA.

(2) Turn STANDBY up The "STBY" indicator appears in the viewfinder.

(3) Press START/STOP. The camcorder starts recording and the "STBY" indicator changes to the "REC" indicator.

You can also select Recording mode, SP (standard play) mode or LP (long play) mode. Set REC MODE in the menu system according to the length of your planned recording before you start.

Запись с помощью видеокамеры

Убедиться, источник питания и кассета вставлены и, что переключатель START/STOP MODE на панели ЖКД установлен на ♙ .

Если Вы используете видеокамеру в первый раз, то включите ее питание и установите дату и время на Ваше время (стр. 55) перед тем, как Вы начнете запись. Дата автоматически будет записываться в течение 10 секунд после начала записи **(функция AUTO DATE)** Эта функция работает только один раз в день.

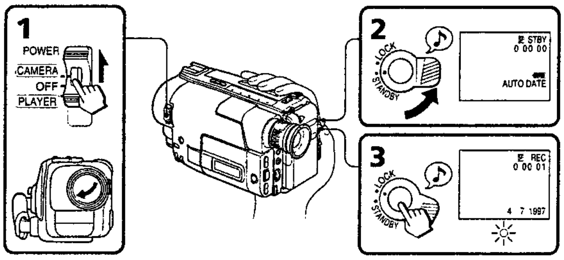
Перед тем, как Вы начнете запись одноразовых событий, Вы можете захотеть сделать пробу для подтверждения, что Вы используете видеокамеру правильно.

(1) Нажимая маленькую зеленую кнопку на выключателе POWER, установите его в положение CAMERA.

(2) Поверните STANDBY вверх· Индикатор "STBY" появится в видоискателе.

(3) Нажмите START/STOP. Видеокамера начинает запись, и индикатор "STBY" изменится на индикатор "REC".

Вы также можете выбрать режим записи, режим SP (стандартное воспроизведение) или режим LP (удлиненное воспроизведение). Установите REC MODE в системе меню в соответствии с длительностью планируемой Вами записи перед началом.



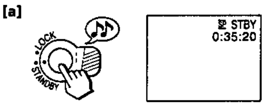
To stop recording momentarily [a]

Press START/STOP again. The "REC" indicator in the viewfinder changes to the "STBY" indicator (**Standby mode**).

To finish recording [b]

Press START/STOP. Turn STANDBY down, and set the POWER switch to OFF.
Then, eject the cassette and remove the battery pack.

[a]



Note on standby mode

If you leave the camcorder for 5 minutes or more with a cassette inserted in Standby mode, the camcorder goes off automatically. This prevents wearing down the battery and wearing out the tape. To resume Standby mode, turn STANDBY down once and turn it up again. To start recording, press START/STOP.

Notes on the recording mode

- This camcorder records and plays back in SP (standard play) mode and in LP (long play) mode.
  The playback quality in LP mode, however, will not be as good as that in SP mode.
- When a tape recorded on this camcorder in LP mode is played back on other types of 8 mm camcorders or VCRs, the playback quality may not be as good as that on this camcorder.

Note on recording

When you record from the beginning of the tape, run the tape for about 15 seconds before actual recording. This prevents the camcorder from missing any start-up scenes when you play back the tape.

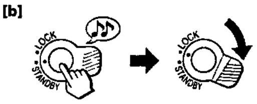
Для временной остановки записи [a]

Нажмите опять START/STOP. В видоискателе индикатор "REC" изменится на индикатор "STBY" (**режим готовности**).

Для окончания записи [b]

Нажмите START/STOP. Поверните STANDBY вниз и установите выключатель POWER в положение OFF. Затем вытолкните кассету и удалите батарейный блок.

[b]



Примечание к режиму готовности

Если Вы оставляете видеокамеру на 5 минут или более со вставленной кассетой в режиме готовности, то видеокамера выключится автоматически. Это предотвращает разрядку батареи и износ ленты. Для возобновления режима готовности один раз поверните STANDBY вниз и снова поверните его вверх. Для начала записи нажмите START/STOP.

Примечания к режимам записи

- Данная видеокамера записывает и воспроизводит в режиме SP (стандартного воспроизведения) или в режиме LP (удлиненного воспроизвдения). Однако, качество воспроизведения в режиме LP будет не таким хорошим, как в режиме SP.
- Если лента была записана в режиме LP на данной видеокамере и воспроизводится на других типах 8-мм видеокамер или на КВМ, качество воспроизведения может быть не таким хорошим, как при воспроизведении на данной видеокамере.

Примечание к процессу записи

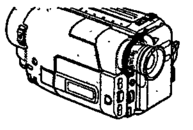
Если Вы производите запись с самого начала ленты, дайте возможность ленте переместиться около 15 секунд до начала записи. Это предохраняет видеокамеру от пропуска начальных сюжетов съемки, когда Вы будете воспроизводить ленту.

To focus the viewfinder lens

If the viewfinder is not in focus at all or when you use the camcorder after someone else has used it, focus the viewfinder lens. Turn the viewfinder lens adjustment ring so that the indicators in the viewfinder come into sharp focus.

Для фокусировки объектива видоискателя

Если видоискатель вообще не сфокусирован, или, если Вы используете видеокамеру после того, как ее использовал кто-то другой, то сфокусируйте объектив видоискателя. Поверните регулировочное кольцо объектива видоискателя так, чтобы индикаторы в видоискателе были четко сфокусированы.



Notes on the tape counter

- The tape counter indicates the recording or playback time. Use it as a guide. There will be a time lag of several seconds from the actual time. To set the counter to zero, press COUNTER RESET inside the LCD panel.
- If the tape is recorded in SP and LP modes mixed, the tape counter shows incorrect recording time. When you intend to edit the tape using the tape counter as a guide, record in same (SP or LP) mode.

Note on beep sound

As indicated with ♪ in the illustrations, a beep sounds when you turn the power on or when you start recording and two beeps sound when you stop recording, confirming the operation. Several beeps also sound as a warning of any unusual condition of the camcorder. Note that the beep sound is not recorded on the tape. If you do not want to hear the beep sound, set BEEP to OFF in the menu system.

Примечания к счетчику ленты

- Счетчик ленты указывает время записи или время восприизведения. Используйте его в качестве руководства. Существует отставание по времени на несколько секунд от фактического времени. Для установки показаний счетчика к нулевой отметке нажмите кнопку COUNTER RESET на панели ЖКД.
- Если лента записана в сочетании режимов SP и LP, счетчик ленты будет показывать неправильное время записи. Если Вы намереваетесь произвести монтаж ленты с использованием счетчика времени согласно руководству, выполняйте запись в одном и том же режиме (SP или LP).

Примечание к зуммерному звуковому сигналу

Как указано с помощью ♪ на рисунках, зуммерный сигнал звучит, когда Вы начинаете запись, и два зуммерных сигнала звучат, когда Вы заканчиваете запись, подтверждая тем самым работу. Несколько зуммерных сигналов также звучит в качестве предупреждения какого-либо ненормального состояния видеокамеры. Заметьте, что зуммерный звуковой сигнал не записывается на ленту. Если Вы не хотите слышать зуммерный сигнал, установите BEEP в системе меню в положение OFF.

Note on the AUTO DATE feature

The clock is set at the factory to Sydney time for Australia and New Zealand models, to Tokyo time for the models sold in Japan and to Hong Kong time for other models. You can reset the clock in the menu system.
The AUTO DATE feature shows the date automatically once a day. However, the date may automatically appear more than once a day when:
- you reset the date and time.
- you eject and insert the cassette again.
- you stop recording within 10 seconds.

Using the zoom feature

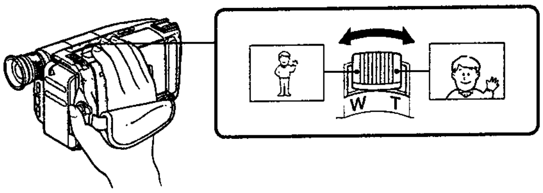
Zooming is a recording technique that lets you change the size of the subject in the scene. For more professional-looking recordings, use the zoom sparingly.
T side: for telephoto (subject appears closer)
W side: for wide-angle (subject appears farther away)

Примечание к функции AUTO DATE

Часы установлены на заводе на время Лондона для Соединенного Королевства и на время Парижа для других европейских стран в системе меню.
Вы можете переустановить часы. Функция AUTO DATE работает один раз в день. Однако, дата может появиться более одного раза в день, если:
- Вы переустановите дату и время.
- Вы вытолкнете ленту и вставите кассету снова.
- Вы остановите запись в пределах 10 секунд.

Использование функции наезда видеокамеры

Наезд видеокамеры является техническим приемом записи, который позволяет Вам изменять размер объекта в кадре. Не злоупотребляйте этим приемом, если хотите, чтобы Ваши записи выглядели более профессионально.
Сторона "T": для телефото (объект приближается)
Сторона "W": для широкого угла съемки (объект удаляется)



Zooming speed (Variable speed zooming)

Turn the power zoom lever fully for a high-speed zoom. Turn it lightly for a relatively slow zoom.

When you shoot a subject using a telephoto zoom

If you cannot get a sharp focus while in extreme telephoto zoom, move the power zoom lever to the "W" side until the focus is sharp.
You can shoot a subject that is at least 80 cm (about 2.6 feet) away from the lens surface in the telephoto position, or 1 cm (about 1/2 inches) in the wide-angle position.

Notes on digital zoom (CCD-TRV24E only)

- More than 15x zoom is performed digitally, and the picture quality deteriorates as you go toward the " T " side. If you do not want to use the digital zoom, set D ZOOM to OFF in the menu system.
- The right side **[a]** of the power zoom indicator shows the digital zooming zone, and the left side **[b]** shows the optical zooming zone. If you set D ZOOM to OFF, the right **[a]** zone disappears.

Скорость наезда видеокамеры (наезд с разной скоростью)

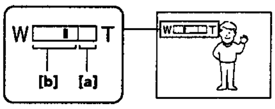
Полностью поверните рычаг приводного трансфокатора для быстрого наезда видеокамеры. Поверните его слегка для медленного наезда телекамеры.

Когда Вы снимаете объект, используя наезд в режиме телефото

Если Вы не можете получить четкой фокусировки во время крайнего наезда в режиме телефото, то перемещайте рычаг приводного трансфокатора в сторону "W" до тех пор, пока не получите четкой фокусировки.
Вы можете произвести съемку предмета, который по меньшей мере находится на расстоянии 80 см от поверхности объектива в положении телефото или 1 см в положении широкого угла.

Примечания к цифровому трансфокатору (только CCD-TRV24E)

- Более, чем 15-кратная трансфокация выполняется цифровым способом, и качество изображения ухудшается по мере перемещения в сторону "T". Если Вы не хотите использовать цифровую трансфокацию, установите D ZOOM в системе меню в положение OFF.
- Правая сторона [a] индикатора приводной трансфокации показывает зону цифровой трансфокации, а левая сторона [b] показывает зону оптической трансфокации. Если Вы установите D ZOOM в положение OFF, правая зона [a] исчезнет.



Shooting with the LCD screen

Съемка с помощью экрана ЖКД

You can also record the picture while looking at the LCD screen.
When using the LCD screen, the viewfinder turns off automatically. You cannot monitor the sound from the speaker during recording.

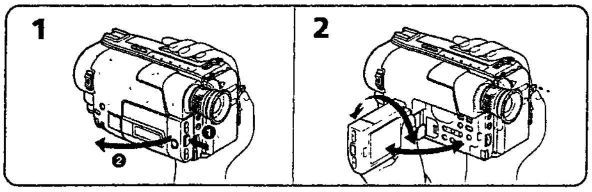
(1) While pressing PUSH OPEN, open the LCD panel.
(2) Adjust the angle of the LCD panel.
The LCD panel moves about 90 degrees to this side and about 210 degrees to the other side.
To adjust the brightness of the LCD screen, press BRIGHT + or –.

The battery life is longer when the LCD panel is closed. Use the viewfinder instead of the LCD screen to save the battery power.

Вы также можете осуществлять запись изображения, просматривая его на экране ЖКД.
При использовании экрана ЖКД видоискатель выключится автоматически. Вы не можете прослушивать звук от громкоговорителя во время записи.

(1) Нажимая PUSH OPEN, откройте панель ЖКД.
(2) Отрегулируйте угол панели ЖКД.
Панель ЖКД перемещается приблизительно на 90 градусов в одну сторону и на 210 градусов в другую сторону.
Для того, чтобы отрегулировать яркость экрана ЖКД. нажмите кнопку BRIGHT + или –.

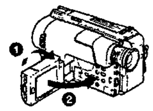
Срок службы батареи будет длинее, если ЖКД панель закрыта. Используйте видоискатель вместо экрана ЖКД для экономии мощности батареи.



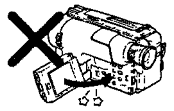
Notes on the LCD panel
- When closing the LCD panel, turn it vertically until it clicks **[a]**.
- When turning the LCD panel, turn it always vertically, otherwise, the camcorder body may be damaged or the LCD panel may not close properly **[b]**.
- Close the LCD panel completely when not in use

Примечания к панели ЖКД
- При закрывании панели ЖКД поворачивайте ее вертикально, пока она не защелкнется **[a]**.
- При поворачивании панели ЖКД поворачивайте ее всегда вертикально, или в противном случае корпус видеокамеры может быть поврежден. или панель ЖКД не сможет закрыться правильно **[b]**.
- Полностью закройте панель ЖКД, когда она не используется.

[a]



[b]



Letting the subject monitor the shot

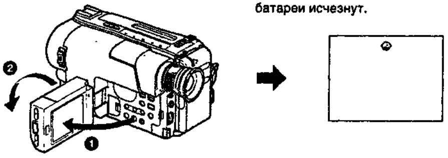
Возможность для снимаемого человека наблюдать съемку

You can turn the LCD panel over so that it faces the other way and you can let the subject monitor the shot while shooting with the viewfinder.

Turn the LCD panel vertically first until it clicks, then turn it over. The ⟐ indicator appears **(Mirror mode)** and the date and tape counter indicators disappear.

Вы можете перевернуть панель ЖКД, так, что она будет обращена в другую сторону и Вы можете дать возможность снимаемому человеку наблюдать съемку, снимая с помощью видоискателя.

Сперва поворачивайте панель ЖКД вертикально, пока она не защелкнется, а затем переверните ее. Индикатор ⟐ появится на экране **(зеркальный режим)**, и индикаторы даты и счетчика ленты батареи исчезнут.



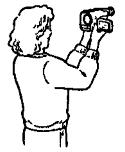
To cancel mirror mode
Turn the LCD panel back toward the viewfinder.

Notes on mirror mode
- When you turn the LCD panel about 135 degrees to 210 degrees, the camcorder enters mirror mode.
- Using the mirror mode, you can record yourself while watching yourself on the LCD **[a]**.
- The picture on the LCD looks as a mirror-image while recording in mirror mode **[b]**. The STBY indicator appears as **II●** and REC as ●. Some indicators may not appear in mirror mode.
- The date appears in reverse when the AUTO DATE feature is turned on. When recorded it will be normal.
- While recording in mirror mode, you cannot operate the following buttons: TITLE, DATE and TIME.
- The counter is displayed upside down in the display window.

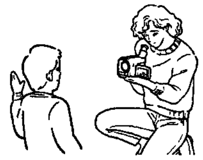
Для отмены зеркального режима
Поверните панель ЖКД назад в направлении видоискателя.

Примечания к зеркальному режиму
- Если Вы повернете панель ЖКД приблизительно до диапазона от 135 градусов до 210 градусов, то видеокамера войдет в зеркальный режим.
- Используя зеркальный режим, Вы можете записывать себя на ленту, просматривая свое изображение на ЖКД **[a]**.
- Изображение на ЖКД выглядит, как зеркальное отображение во время записи в зеркальном режиме **[b]**. Индикатор STBY появляется в виде **II●** и REC в виде ●. Некоторые индикаторы могут не появляться в зеркальном режиме.
- Дата появляется в обратном порядке, если включена функция AUTO DATE. После записи она будет нормальной.
- Во время записи в зеркальном режиме Вы не можете управлять следующими кнопками: TITLE, DATE и TIME.
- Счетчик отображается в перевернутом виде в окошке дисплея.

[a]



[b]

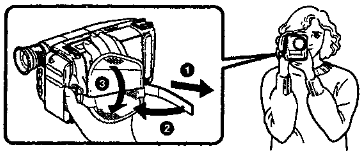


Hints for better shooting

Советы для лучшей съемки

For hand-held shots, you'll get better results by holding the camcorder according to the following suggestions:
- Hold the camcorder firmly and secure it with the grip strap so that you can easily manipulate the controls with your thumb.

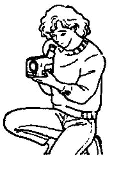
Для кадров при удерживании видеокамеры в руках, Вы получите лучшие результаты, если будете держать видеокамеру в соответствии со следующими указаниями:
- Держите видеокамеру крепко и закрепите ее с помощью ременного захвата так, чтобы Вы могли легко манипулировать регуляторами с помощью большого пальца.



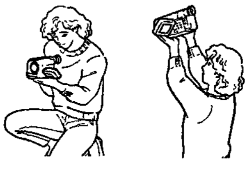
- Place your right elbow against your side.
- Place your left hand under the camcorder to support it.
- Place your eye firmly against the viewfinder eyecup.
- Use the viewfinder frame as a guide to determine the horizontal plane.
- You can record in a low position to get an interesting recording angle. Lift the viewfinder up for recording from a low position **[a]**.
- You can also record in a low position or even in a high position using the LCD panel **[b]**.

- Расположите Ваш правый локоть сбоку от себя.
- Расположите Ваш левую руку под видеокамерой для ее поддержки.
- Надежно прислоните Ваш глаз к окуляру видоискателя.
- Используйте визирную рамку в качестве руководства для определения горизонтального плана.
- Вы можете записывать из низкого положения для получения интересного угла записи. Поднимите видоискатель вверх для записи из низкого положения **[a]**.
- Вы также можете снимать из низкого положения или даже из высокого положения с использованием панели ЖКД **[b]**.

[a]



[b]



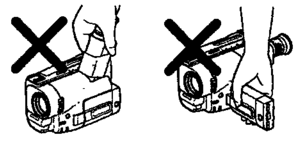
Place the camcorder on a flat surface or use a tripod
Try placing the camcorder on a table top or any other flat surface of suitable height. If you have a tripod for a still camera, you can also use it with the camcorder. When attaching a non-Sony tripod, make sure that the length of the tripod screw is less than 6.5 mm (9/32 in). Otherwise, the screw may damage the inner parts of the camcorder.

Cautions on the viewfinder and the LCD
- Do not pick up the camcorder by the viewfinder or by the LCD panel **[c]**.
- Do not place the camcorder so as to point the viewfinder or the LCD screen toward the sun. The inside of the viewfinder or the LCD panel may be damaged. Be careful when placing the camcorder under sunlight or by a window **[d]**.

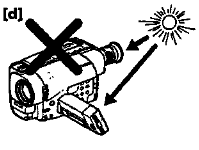
Располагайте видеокамеру на плоской поверхности или используйте треногу
Старайтесь распологать видеокамеру на столе или любой другой плоской поверхности на подходящей высоте. Если Вы имеете треногу для фотоаппарата, то Вы также можете использовать ее с видеокамерой. При прикреплении треноги не фирмы Sony убедитесь, что длина винта треноги менее 6,5 мм. В противном случае винт может повредить внутренние части видеокамеры.

Предостережения к видоискателю и ЖКД
- Не поднимайте видеокамеру за видоискатель или панель ЖКД **[c]**.
- Не располагайте видеокамеру так, чтобы видоискатель или экран ЖКД были направлены прямо на солнце. Внутренние части видоискателя или панели ЖКД могут быть повреждены. Будьте осторожны при расположение видеокамеры под солнцем или возле окна **[d]**.

[c]



[d]



Note on the LCD screen
When you use the LCD screen outdoors in direct sunlight, the LCD screen may be difficult to see. If this happens, we recommend that you use the viewfinder.

Примечание относительно экрана ЖКД
Когда Вы используете экран ЖКД вне помещения под прямыми солнечными лучами, просмотр на экране ЖКД может быть затруднен. В этом случае рекомендуется использовать видоискатель.

Checking the recorded picture

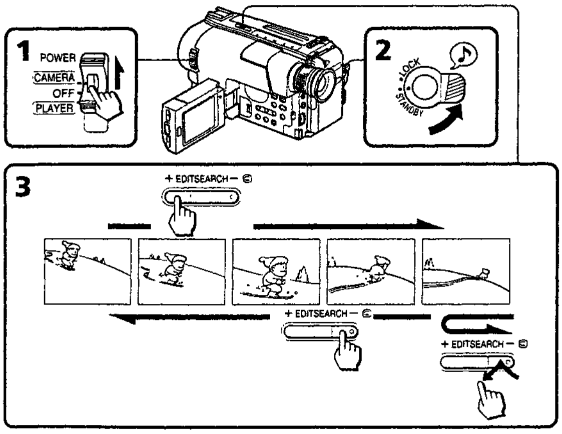
Using EDITSEARCH, you can review the last recorded scene or check the recorded picture in the viewfinder. You can also review the picture on the LCD screen.

(1) While pressing the small green button on the POWER switch, set it to CAMERA.
(2) Turn STANDBY up.
(3) Press the – (⊜) side of EDITSEARCH momentarily; the last few seconds of the recorded portion plays back **(Rec Review)**. You can also monitor the sound from the speaker or by using an earphone (not supplied).
Hold down the – side of EDITSEARCH until the camcorder goes back to the scene you want. The last recorded portion is played back. To go forward, hold down the + side **(EditSearch)**.

Проверка записанного изображения

Используя EDITSEARCH, Вы можете пересмотреть последнюю записанную сцену или проверить записанное изображение в видоискателе. Вы также можете пересмотреть изображение на экране ЖКД.

(1) Нажимая маленькую зеленую кнопку на выключателе POWER, установите его в положение CAMERA.
(2) Поверните STANDBY вверх.
(3) Ненадолго нажмите сторону – (⊜) кнопки EDITSEARCH; последние несколько секунд записанной части будут воспроизведены **(пересмотр записи)**. Вы также можете прослушивать звук от громкоговорителя или через наушники (не прилагаются).
Держите сторону – кнопки EDITSEARCH до тех пор, пока видеокамера не вернется к желаемой сцене. Последняя записанная часть будет воспроизведена. Для продвижения вперед держите сторону + **(монтажный поиск)**.



To stop playback

Release EDITSEARCH.

To go back to the last recorded point after edit search

Press END SEARCH. The last recorded point is played back for about 5 seconds if the tape was recorded in SP mode, or 10 seconds if the tape was recorded in LP mode, and stops.
Note that this function does not work once you eject the cassette after you recorded in the tape.

To begin re-recording

Press START/STOP. Re-recording begins from the last recorded point or the point you released EDITSEARCH. Provided you do not eject the tape, the transition between the last scene you recorded and the next scene you record will be smooth.

Для остановки воспроизведения

Нажмите EDITSEARCH.

Для возврата к последнему записанному месту после монтажного поиска

Нажмите END SEARCH. Последнее записанное место будет воспроизводиться приблизительно в течении 5 секунд, если лента была записана в режиме SP, или в течение 10 секунд, если лента была записана в режиме LP, а затем лента остановится. Обратите внимание, что данная функция не работает, если Вы вытолкните кассету после записи ленты.

Для начала перезаписи

Нажмите START/STOP. Перезапись начинается от последней записанной точки или от точки, где Вы отпустили EDITSEARCH. Предусмотрено, чтобы Вы не вытолкнули кассету, и переход между последней сценой, которую Вы записали, и следующей сценой, которую Вы записываете, будет плавным.

Playing back a tape

You can monitor the playback picture on the LCD screen

(1) While pressing the small green button on the POWER switch, set it to PLAYER.
(2) Insert the recorded tape with the window facing out.
(3) While pressing PUSH OPEN, open the LCD panel. Adjust the angle of the LCD panel or the brightness of the LCD screen if necessary.
(4) Press ▷ to start playback.
(5) Adjust the volume using VOLUME +/–.

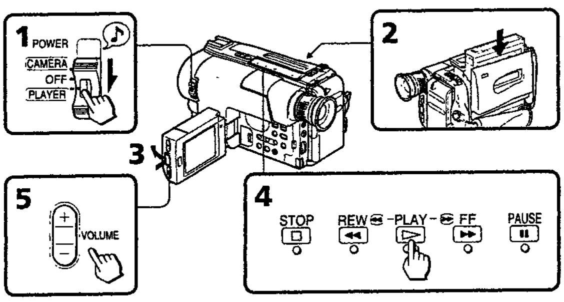
You can also monitor on the TV screen after connecting the camcorder to the VCR or TV.

Воспроизведение ленты

Вы можете просматривать воспроизводимое изображение на экране ЖКД.

(1) Нажимая маленькую зеленую кнопку на выключателе POWER, передвиньте его в положение PLAYER.
(2) Вставьте записанную кассету окошком, обращенным наружу.
(3) Нажимая PUSH OPEN, откройте панель ЖКД. Отрегулируйте угол панели ЖКД и яркость экрана ЖКД, если это требуется.
(4) Нажмите ▷ для начала воспроизведения.
(5) Отрегулируйте громкость с использованием VOLUME +/–.

Вы также можете просматривать изображение на экране телевизора после подсоединения видеокамеры к КВМ/телевизору.



To stop playback, press □.
To rewind the tape, press ◀◀.
To fast-forward the tape, press ▶▶.

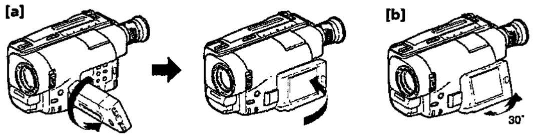
Для остановки воспроизведения нажмите □.
Для ускоренной перемотки ленты назад нажмите ◀◀.
Для ускоренной перемотки ленты вперед нажмите ▶▶.

When watching on the LCD screen

You can turn the LCD panel over and move back to the camcorder with the LCD screen facing out **[a]**. You can adjust the angle of the LCD panel up to 30 degrees **[b]**.

При просмотре на экране ЖКД

Вы можете перевернуть панель ЖКД и передвинуть назад к видеокамере с обращенным наружу экраном ЖКД **[a]**. Вы можете изменять угол наклона панели ЖКД на 30 градусов **[b]**.



Using the Remote Commander

You can control playback using the supplied Remote Commander.
Before using the Remote Commander, insert the R6 (size AA) batteries.

To erase the screen indicators

Press DISPLAY to erase the screen indicators on the LCD screen. To display the indicators, press again.
The indicators don't appear on the TV.

Using an earphone

Connect an earphone (not supplied) to the ⑩ jack. You can adjust the volume of the earphone using VOLUME.

To view the playback picture in the viewfinder

Close the LCD panel. The viewfinder turns on automatically. When using the viewfinder, you can monitor the sound only by using an earphone.
To view on the LCD screen again, open the LCD panel. The viewfinder turns off automatically.

Использование пульта дистанционного управления

Вы можете управлять воспроизведением с использованием прилагаемого пульта дистанционного управления.
Перед использованием пульта дистанционного управления вставьте батарейки R6 (размером AA).

Для удаления индикаторов с экрана

Нажмите кнопку DISPLAY для стирания экранных индикаторов на экране ЖКД. Для отображения индикаторов нажмите ее снова.
Индикаторы не появляются на экране телевизора.

Использование наушников

Подсоедините наушники (не прилагаются) к гнезду ⑩. Вы можете отрегулировать громкость наушников с использованием VOLUME.

Для просмотра воспроизводимого изображения в видоискателе

Закройте панель ЖКД. Видоискатель включится автоматически. При использовании видоискателя Вы можете прослушивать звук только через наушники. Для просмотра на экране ЖКД снова откройте панель ЖКД. Видоискатель выключится автоматически.

Various playback modes

To view a still picture (playback pause)

Press **II** during playback. To resume playback, press **II** or ▷.

To locate a scene (Picture Search)

Keep pressing ◀◀ or ▶▶ during playback. To resume normal playback, release the button.

To monitor the high-speed picture while advancing the tape or rewind (Skip Scan)

Keep pressing ◀◀ while rewinding or ▶▶ while advancing the tape.
To resume normal playback, press ▷.

Notes on playback

- Streaks appear and the sound is muted in the various playback modes.
- When playback pause mode lasts for 5 minutes or more, the camcorder automatically enters stop mode.

Различные режимы воспроизведения

Для просмотра неподвижного избражения (пауза воспроизведения)

Нажмите кнопку **II** во время воспроизведения. Для возобновления воспроизведения нажмите кнопку **II** или ▷.

Для отыскания желаемого фрагмента (поиск изображения)

Держать нажатой кнопку ◀◀ или ▶▶ во время воспроизведения. Для возобновления нормальнго воспроизведения отпустить кнопку.

Для контроля изображения на высокой скорости во время ускоренной перемотки вперед или назад (поиск методом прогона)

Держать нажатой кнопку ◀◀ во время перемотки ленты назад или кнопку ▶▶ во время перемотки ленты вперед. Для возобновления нормального воспроизведения нажать кнопку ▷.

Примечания к воспроизведении

- В различных режимах воспроизведения на экране могут появиться полосы и звук будет приглушен.
- Если режим паузы воспроизведения продолжается 5 минут или более, видеокамера автоматически войдет в режим остановки.

Searching for the end of the picture

Поиск конца изображения

You can go to the end of the recorded portion after you record and play back the tape to make the transition between the last scene you recorded and the next scene smooth. The tape starts rewinding or fast-forwarding. Then, the last 5 seconds play back if the tape was recorded in SP mode, or the last 10 seconds play back if the tape was recorded in LP mode. Then the tape stops at the end of the recorded picture **(End Search).**
Note that End Search function does not work once you eject the cassette after you recorded in the tape.

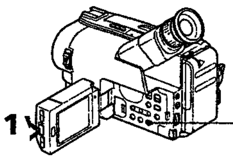
(1) While pressing PUSH OPEN, open the LCD panel.
(2) Press END SEARCH.

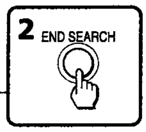
This function works when the POWER switch is set to either CAMERA or PLAYER.

Вы можете перейти к концу записанной части после записи и воспроизведения ленты для обеспечения плавного перехода между последней сценой, которую Вы записали, и следующей сценой. Лента начинает ускоренно перематываться назад или вперед. Затем последние 5 секунд будут воспроизведены, если лента записана в режиме SP, или последние 10 секунд будут воспроизведены, если лента записана в режиме LP. Затем лента останавливается в конце записанного изображения **(поиск конца).**
Обратите внимание, что функция поиска конца не работает, если Вы вытолкнули кассету после выполнения Вашей записи на ленте.

(1) Нажимая PUSH OPEN, откройте панель ЖКД.
(2) Нажмите END SEARCH.

Данная функция работает, когда выключатель POWER установлен в любую из позиций, CAMERA или PLAYER.





Using alternative power sources

Использование альтернативных источников питания

You can choose any of the following power sources for your camcorder: battery pack, the mains, and 12/24 V car battery. Choose the appropriate power source depending on where you want to use your camcorder.

Place	Power source	Accessory to be used
Indoors	Mains	Supplied AC power adaptor
Outdoor	Battery pack	Battery pack (Ni-Cd type)
In the car	12 V or 24 V car battery	Sony DC pack DCP-77

Note on power sources

Disconnecting the power source or removing the battery pack during recording or playback may damage the inserted tape. If this happens, restore the power supply again immediately.

This mark indicates that this product is a genuine accessory for Sony video product. When purchasing Sony video products, Sony recommends that you purchase accessories with this "GENUINE VIDEO ACCESSORIES" mark.

Вы можете выбирать любой из следующих источников питания для Вашей видеокамеры: батарейный блок, сетевое питание и автомобильный аккумулятор 12/24 В. Выбирайте надлежащий источник питания в зависимости от того, где Вы хотите использовать Вашу видеокамеру.

Место	Источник питания	Используемые принадлежности
В помещении	Электрическая сеть	Прилагаемый сетевой адаптер перем. тока
Вне помещения	Батарейный блок	Батарейный блок (типа Ni-Cd)
В автомобиле	Автомобильный аккумулятор 12 В или 24 В	Блок пост. тока DCP-77 Sony

Примечание к источникам питания

Отсоединение источников питания или снятие батарейного блока во время записи или воспроизведения может повредить вставленную ленту. Если такое случится, восстановите источник питания немедленно.

Настоящий знак указывает, что данная продукция является подлинной принадлежностью видеопродукции Sony. Если Вы покупаете видеопродукцию Sony, то мы рекомендуем, чтобы Вы покупали принадлежности со знаком "GENUINE VIDEO ACCESSORIES."

Using the mains

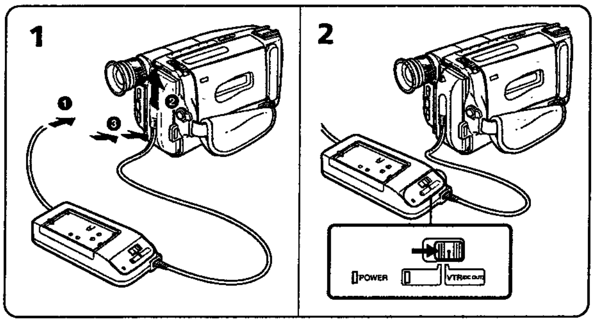
To use the supplied AC power adaptor:

(1) Connect the mains to a wall outlet. Insert the top of the connecting plate of the AC power adaptor into the top of the battery mounting surface. Push the connecting plate so that it attaches firmly. Make sure that you hear clicks twice.
(2) Set the selector to VTR (DC OUT).

Использование электрической сети

Для использования прилагаемого сетевого адаптера перем. тока:

(1) Подсоедините сетевой провод к сетевой розетке. Вставьте верхний конец соединительной пластины сетевого адаптера перем. тока в верхнюю часть батарейной установочной поверхности. Нажмите на соединительную пластину, так, чтобы она присоединилась надежно. Убедитесь, чтобы Вы услышали щелчок дважды.
(2) Установите селектор в положение VTR (DC OUT).



WARNING
The mains lead must only be changed at qualified service shop.

PRECAUTIONS
The set is not disconnected from the AC power source (mains) as long as it is connected to the mains, even if the set itself has been turned off.

ПРЕДУПРЕЖДЕНИЕ
Сетевой провод следует заменять только в мастерской квалифицированного обслуживания.

ПРЕДОСТЕРЕЖЕНИЕ
Данный аппарат не отключается от источника питания перем. тока, пока он подсоединен к электрической сети, даже если сам аппарат отключен.

Using alternative power sources

Notes on the POWER lamp
- The POWER lamp will remain lit for a while even if the unit is unplugged after use This is normal.
- If the POWER lamp does not light, set the selector to VTR (DC OUT) and disconnect the mains lead. After about one minute, reconnect the mains lead.

To remove the adaptor
The adaptor is removed in the same way as the battery pack.

Using a car battery

Use Sony DCP-77 DC pack (not supplied). Connect the cord of the DC pack to the cigarette lighter socket of the car (12 V or 24 V). Connect the DC pack to the battery mounting surface of the camcorder.

To remove the DC pack
The DC pack is removed in the same way as the battery pack.

Использование альтернативных источников питания

Примечания к лампочке POWER
- Лампочка POWER будет оставаться горящей какое-то время, даже если аппарат будет отсоединен после использования. Это является нормальным.
- Если лампочка POWER не загорается, установите селектор в положение VTR (DC OUT) и отсоедините сетевой провод. Приблизительно через одну минуту снова подсоедините сетевой провод.

Для снятия адаптера
Адаптер снимается таким же образом, как и батарейный блок.

Использование автомобильного аккумулятора

Используйте блок пост. тока DCP-77 Sony (не прилагается). Подсоедините шнур блока пост. тока к гнезду сигаретного прикуривателя автомобиля (12 В или 24 В). Подсоедините блок пост. тока к установочной поверхности батареи видеокамеры.

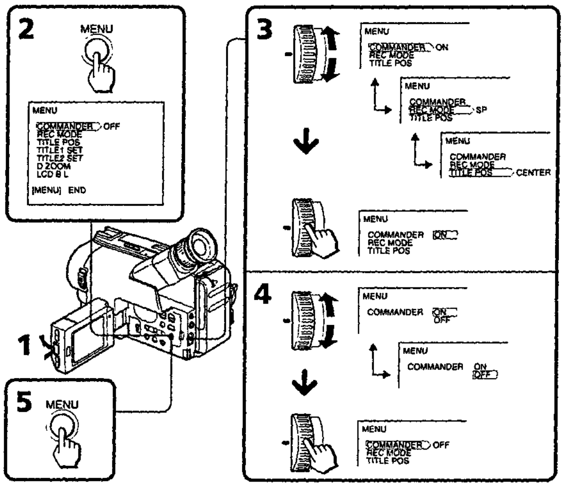
Для снятия блока пост. тока
Блок пост. тока снимается таким же способом, как и батарейный блок.

Changing the mode settings

You can change the mode settings to further enjoy the features and functions of the camcorder.
(1) While pressing PUSH OPEN, open the LCD panel.
(2) Press MENU to display the menu.
(3) Turn the control dial to select the desired item, and press the dial.
(4) Turn the control dial to select the desired mode, and press the dial.
(5) Press MENU to erase the menu display.

Изменение режимных установок

Вы можете изменять установки режимов для наслаждения дополнительными свойствами и функциями видеокамеры.
(1) Нажав кнопку PUSH OPEN, откройте панель ЖКД.
(2) Нажмите кнопку MENU для отображения меню.
(3) Поверните регулировочный диск, чтобы выбрать желаемый пункт, и нажмите диск.
(4) Поверните регулировочный диск, чтобы выбрать желаемый режим, и нажмите диск.
(5) Нажмите кнопку MENU, чтобы удалить индикации меню.



Selecting the mode setting of each item

Items for both CAMERA and PLAYER modes
COMMANDER <ON/OFF>
- Select ON when using the supplied Remote Commander for the camcorder.
- Select OFF when not using the Remote Commander.

BEEP* <ON/OFF>
- Select ON so that beeps sound when you start/stop recording, etc.
- Select OFF when you do not want to hear the beep sound.

LCD B.L. * <BRT NORMAL/BRIGHT>
- If you select BRT NORMAL, the battery life becomes about 10% longer than it is when you select BRIGHT.
- Select BRIGHT to make the LCD screen brighter when shooting/playing back outdoors.

Items for CAMERA mode only
REC MODE* <SP/LP>
- Select SP to record a tape in SP (standard play) mode.
- Select LP to record a tape in LP (long play) mode.

TITLE POS* <CENTER/BOTTOM>
- Select CENTER to center the title in the picture.
- Select BOTTOM to position the title at the bottom of the picture.

TITLE1 SET*/TITLE2 SET*
Store your own titles.

D ZOOM* <ON/OFF> (CCD-TRV24E only)
- Select ON to activate digital zooming.
- Select OFF to not use the digital zoom. The camcorder goes back to 15x zoom.

Выбор установки режима по каждому пункту

Пункты для режимов CAMERA и PLAYER
ПУЛЬТ УПРАВЛЕНИЯ COMMANDER <ON/OFF>
- Установите в положение ON, если Вы полузуетесь прилагаемым к видеокамере пультом дистанционного управления.
- Установите в положение OFF, если Вы не используете пульт дистанционного управления.

ЗУММЕРНЫЙ СИГНАЛ BEEP* <ON/OFF>
- Установите в положение ON, чтобы зуммерные звуковые сигналы звучали, когда Вы начинаете/заканчиваете запись и т.п.
- Установите в положение OFF, когда Вы не хотите слышать зуммерный звуковой сигнал.

ЖКД LCD B.L.* <BRT NORMAL/BRIGHT>
- Если Вы выберете BRT NORMAL, срок службы батарейки станет на 10% дольше, чем в случае, когда Вы выберете BRIGHT.
- Выберите BRIGHT, чтобы сделать экран ЖКД ярче в случае съемки/воспроизведения вне помещения.

Пункты только для режима CAMERA
РЕЖИМ ЗАПИСИ REC MODE* <SP/LP>
- Выберите SP для записи ленты в режиме SP (стандартное воспроизведение).
- Выберите LP для записи ленты в режиме LP (продолжительное воспроизведение).

НАДПИСЬ TITLE POS* <CENTER/BOTTOM>
- Выберите CENTER для рамещения надписи посредине изображения.
- Выберите BOTTOM для размещения надписи внизу изображения.

УСТАНОВКА НАДПИСИ 1 TITLE1 SET*/ УСТАНОВКА НАДПИСИ 2 TITLE2 SET*
Занесите в память Ваши собственные надписи.

ТРАНСФОКАЦИЯ D ZOOM* <ON/OFF> (только модель CCD-TRV24E)
- Выберите ON для включения цифровой трансфокации.
- Выберите OFF для выключения цифровой трансфокации. Видеокамера вернется к 15-кратной трансфокации.

REC LAMP* <ON/OFF>
- Select OFF when you do not want the camera recording/battery lamp at the front of the unit to light up.
- Normally select ON.

AUTO DATE* <ON/OFF>
- Select ON to record the date for 10 seconds after recording has started.
- Select OFF to not record the date.

CLOCK SET*
Reset the date or time.

DEMO MODE* <ON/OFF>
- Select ON to make the demonstration appear.
- Select OFF to make the demonstration not appear.

* These settings are retained even when the battery is removed, as long as the lithium battery is in place.

Notes on DEMO MODE
- DEMO MODE is set to STBY at the factory and the demonstration starts about 10 minutes after you set the POWER switch to CAMERA without inserting a cassette.
  Note that you cannot select STBY of DEMO MODE in the menu system.
- You cannot select DEMO MODE when a cassette is inserted in the camcorder.
- If you insert a cassette during the demonstration, the demonstration stops. You can start recording as usual DEMO MODE automatically returns to STBY.

To look at the demonstration at once
Eject the cassette, if inserted. Select ON of DEMO MODE. Erase the menu display. The demonstration will begin.
When you turn off the camcorder once, DEMO MODE automatically returns to STBY.

ЛАМПОЧКА ДЛЯ ЗАПИСИ REC LAMP* <ON/OFF>
- Выберите OFF, если Вы не хотите, чтобы высвечивалась лампочка записи/батареи видеокамеры с передней стороны аппарата.
- Обычно выбирается ON.

АВТОМАТИЧЕСКАЯ ДАТА AUTO DATE* <ON/OFF>
- Выберите ON для записи даты в течение 10 секунд после начала записи.
- Выберите OFF, чтобы не записывать дату.

УСТАНОВКА ЧАСОВ CLOCK SET*
Установите заново дату или время.

ДЕМОНСТРАЦИОННЫЙ РЕЖИМ DEMO MODE* <ON/OFF>
- Выберите ON, чтобы появлялась демонстрация.
- Выберите OFF, чтобы не появлялась демонстрация.

* Эти установки сохраняются даже после снятия батарейного блока, если литиевая батарейка будет оставаться на месте.

Примечания относительно демонстрационного режима DEMO MODE
- На заводе-изготовителе DEMO MODE установлен в положение STBY, и демонстрация начнется примерно через 10 минут после установки выключателя POWER в положение CAMERA без установки кассеты.
  Обратите внимание, что Вы не можете выбрать установку STBY демонстрационного режима DEMO MODE в системе меню.
- Вы не можете выбрать демонстрационный режим DEMO MODE, если в видеокамеру вставлена кассета.
- Если Вы вставили кассету во время демонстрации, то демонстрация будет остановлена. Вы можете начать запись как обычно. Демонстрационный режим DEMO MODE автоматически вернется в STBY.

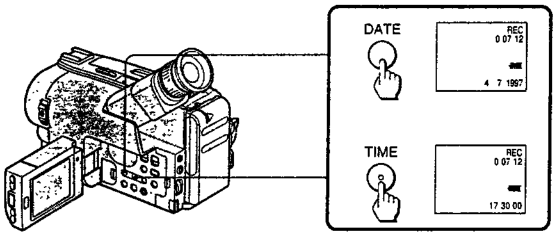
Для немедленного просмотра демонстрации
Выньте кассету, если она вставлена. Выберите ON демонстрационного режима DEMO MODE. Удалите индикации меню. Начнется демонстрация.
Если Вы выключите видеокамеру, режим DEMO MODE автоматически вернется в положение STBY.

Recording with the date or time

Запись с датой или временем

Before you start recording or during recording, press DATE or TIME inside the LCD panel. You can record the date or time displayed on the LCD screen or in the viewfinder with the picture. You cannot record the date and time at the same time. Except for the date or time indicator, no indicator is recorded.
The clock is set at the factory to Sydney time for Australia and New Zealand models, to Tokyo time for the models sold in Japan and to Hong Kong time for other models. You can reset the clock in the menu system.

Перед тем, как начать запись или во время записи нажмите кнопку DATE или TIME под панелью ЖКД Вы можете записать дату или время, отображаемые на экране ЖКД или в видоискателе, вместе с изображением. Вы не можете записывать дату и время одновременно. Кроме индикатора даты или времени, никакой другой индикатор записываться не будет. Часы установлены на заводе на время Сиднея для австралийской и новозеландской моделей, на время Токио для моделей, продаваемых в Японии и на время Гонконга для остальных моделей. Вы можете выполнить повторную установку часов в системе меню.



To stop recording with the date or time

Press DATE or TIME again. The date or time indicator disappears The recording continues.

Note

You cannot superimpose a title during recording the date or time.

Для остановки записи с датой или временем

Нажмите DATE или TIME снова. Индикатор даты или времени исчезнет. Запись продолжится.

Примечание

Вы не можете наложить надпись во время записи даты или времени.

Selecting the START/STOP mode

Выбор режима START/STOP

Your camcorder has two modes besides normal start/stop mode These modes enable you to take a series of quick shots resulting in a lively video.

(1) While pressing PUSH OPEN, open the LCD panel.

(2) Set START/STOP MODE to the desired mode.

♖ : Recording starts when you press START/STOP, and stops when you press it again (normal mode).

⊥ (ANTI GROUND SHOOTING): The camcorder records only while you press down START/STOP so that you can avoid recording unnecessary scenes.

5SEC : When you press START/STOP, the camcorder records for 5 seconds and then stops automatically.

(3) Turn STANDBY up and press START/STOP. Recording starts.

If you selected **5SEC**, five dots appear in the viewfinder. The dots disappear at a rate of one per second as illustrated below.

Кроме обычного режима пуска/остановки в видеокамере имеются два других режима. Эти режимы позволяют Вам выполнить серию съемок и создать оживленный видеосюжет.

(1) Нажимая PUSH OPEN, откройте панель ЖКД.

(2) Установите START/STOP MODE на желаемый режим.

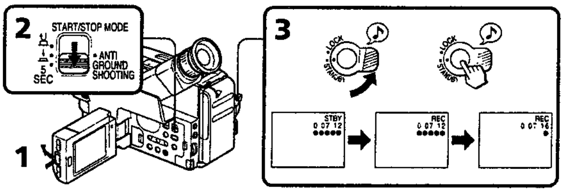
♖ : Запись начинается, когда Вы нажимаете кнопку START/STOP и останавливается. когда Вы нажимаете ее снова (обычный режим).

⊥ (ANTI GROUND SHOOTING): Видеокамера производит запись только, когда Вы держите START/STOP в нажатом состоянии, что позволяет Вам избежать записи ненужных сцен.

5SEC: При нажатии START/STOP видеокамера производит запись в течение 5 секунд, а затем останавливается автоматически.

(3) Поверните STANDBY вверх и нажмите START/STOP.

Если Вы выбрали позицию **5SEC**, в видоискателе появятся пять точек. Эти точки будут исчезать по одной за секунду, как показано на рисунке.



To extend the recording time in 5SEC mode

Press START/STOP again before all the dots disappear. Recording continues for about 5 seconds from the moment you press START/STOP.

Note on 5SEC recording

If you have turned off the indicators on the LCD screen, the dots do not appear .

Для продления времени записи в режиме записи 5SEC

Снова нажмите START/STOP перед тем, как все точки исчезнут. Запись продолжится еще около 5 секунд от момента нажания START/STOP.

Примечание к записи в режиме 5SEC

Если Вы выключите индикаторы на экране ЖКД, точки появляться не будут.

Fade-in and fade-out

Введение и выведение изображения

You can fade in or out to give your recording a professional appearance.
When fading in, the picture gradually fades in from black while the sound increases.
When fading out, the picture gradually fades to black while the sound decreases.

When fading in [a]

(1) While the camcorder is in Standby mode, press FADER. The FADER indicator starts flashing.

(2) Press START/STOP to start recording. The FADER indicator stops flashing.

When fading out [b]

(1) During recording, press FADER. The FADER indicator starts flashing.

(2) Press START/STOP to stop recording. The FADER indicator stops flashing, and then recording stops.

Вы можете вводить или выводить изображение, что придаст Вашей записи профессиональный вид.
При введении изображение постепенно появляется из черного экрана, а звук усиливается.
При выведении изображение постепенно исчезает и переходит в ченый экран, а звук затихает.

При введении изображения [a]

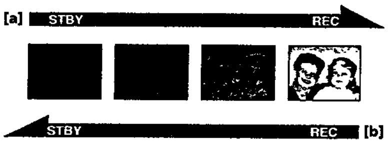
(1) В то время, когда видеокамера находится в режиме готовности, нажмите кнопку FADER. Индикатор FADER начнет мигать.

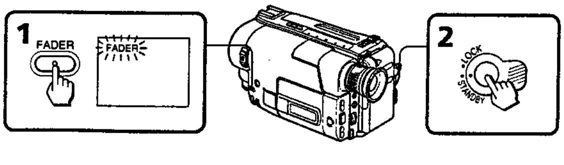
(2) Нажмите кнопку START/STOP для начала записи. Индикатор FADER прекратит мигать.

При выведении изображения [b]

(1) Нажмите во время записи кнопку FADER. Индикатор FADER начнет мигать.

(2) Нажмите кнопку START/STOP для остановки записи. Индикатор FADER прекратит мигать, после чего начнется запись.





Fade-in and fade-out

Введение и выведение изображения

To cancel the fade-in/fade-out function

Before pressing START/STOP, press FADER to turn off the FADER indicator.

When the date/time or title is displayed

The date/time or title does not fade in or fade out.

When the START/STOP MODE switch is set to ⊥ or 5SEC

You cannot use the fade-in/fade-out function.

Для отмены функции введения/выведения изображения

Перед тем, как нажать кнопку START/STOP, нажмите кнопку FADER, чтобы выключить индикатор FADER.

В случае отображения на дисплее даты/времени

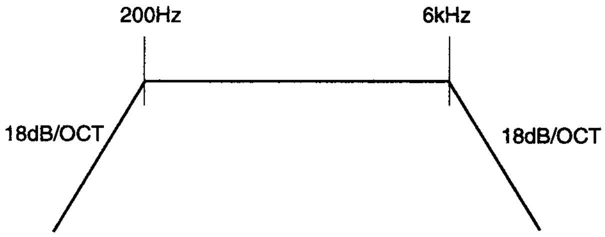
Дата/время или надпись не вводятся и не выводятся на изображении.

Если переключатель START/STOP MODE установлен в положение ⊥ или 5SEC

Вы не можете использовать функцию введения/выведения изображения.

4-6. OVERALL SIGNAL LEVEL, DISTORTION AND SEPARATION CHECK

Mode	CAM-REC and playback
Signal	① CN501 pin ④ :400Hz, –38dBs CN501 pin ② : No signal *② CN501 pin ④ :No signal CN501 pin ② :400Hz, –38dBs
Measurement Point	AUDIO output terminal (Left) *AUDIO output terminal (Right)
Measurement Instrument	Audio level meter and distortion meter
Specification Value	Signal level (Note) ① Left output : –7.5 ± 2dBs Right output : –27.5dBs or less *② Left output : –27.5dBs or less Right output : –7.5 ± 2dBs Distortion Left/Right output : 0.8% or less



Note 1 : The value when band-pass filter of 200Hz to 6kHz is used.
Note 2 : Asterisk marks (*) are used in STEREO model.

Check procedure:

Order	Procedure
1	Input 400Hz, –38dBs signal to CN501 pin ④. Short pin ② and ③ of CN501.
2	Check that the right and left channels of AUDIO output terminal satisfy the specification ①. Check that distortion satisfies the specification.
*3	Input 400Hz, –38dBs signal to CN501 pin ②. Short pin ③ and ④ of CN501.
*4	Check that the right and left channels of AUDIO output terminal satisfy the specification ②. Check that distortion satisfies the specification.

4-7. OVERALL NOISE LEVEL CHECK

Purpose : Checks noise level.

Mode	CAM-REC and playback
Signal	No signal : VC-188 board CN501 (Note)
Measurement Point	AUDIO output terminal (Left/Right)
Measuring Instrument	Audio level meter (using IHF-A curve weighting filter)
Specification Value	–65dBs or less

Note : Before making short circuit between CN501 pin ③ and pin ④, pin ③ and pin ② (STEREO model only), remove the flexible board from CN501

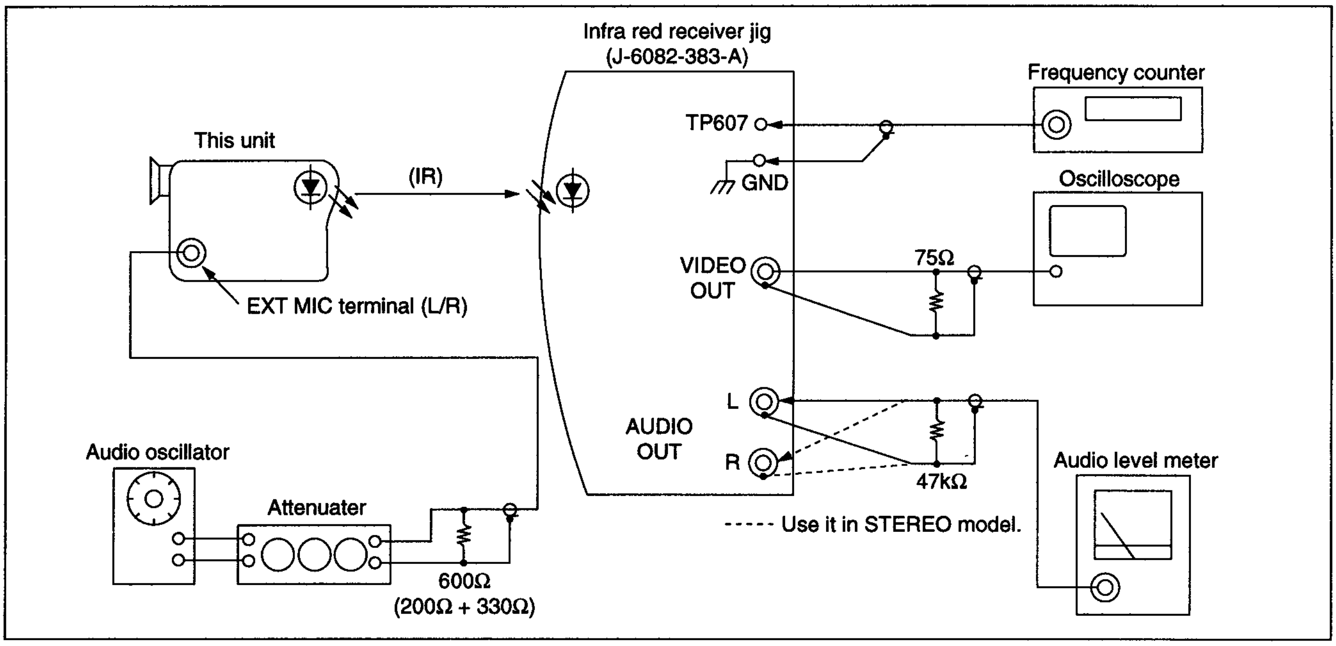
Check procedure:

Order	Procedure
1	Insert a shorting to pin ③ and pin ④, pin ③ and pin ② (STEREO model only) as CN501.
2	Make recording.
3	Remove the shorting plug.
4	Playback the recorded segment.
5	Confirm that the noise level at audio output terminal (Left/Right) is –65dBs or less.

6-5. INFRARED TRANSMIT CIRCUIT ADJUSTMENT (IR MODEL)

5-1. PREPARATIONS

1. Equipment connection


Infra red receiver jig
(J-6082-383-A)
Frequency counter
This unit
(IR)
TP607
GND
Oscilloscope
VIDEO OUT
75Ω
EXT MIC terminal (L/R)
L
AUDIO OUT
R
Audio oscillator
Audio level meter
47kΩ
Attenuater
----- Use it in STEREO model.
600Ω
(200Ω + 330Ω)

Resistors 75Ω : 1-247-804-11
270Ω : 1-249-410-11
330Ω : 1-249-411-11
47kΩ : 1-249-437-11

2. Switch setting

IR switch (VC-188 board S308) .... ON

5-2. VIDEO CARRIER FREQUENCY ADJUSTMENT

Purpose : Adjusts the carrier frequency when modulating the video signal.

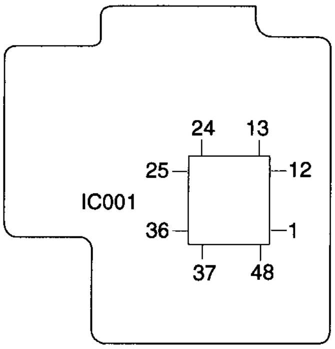
Adjustment error : Loss of synchronization or loss of color.

Mode	CAM-STANDBY
Signal	Any signal
Measurement Point	TP607 of the IR receiver jig or IC001 pin ⑯ of IR-28board.
Measuring Instrument	Frequency counter, Oscilloscope
Adjustment Page	F
Adjustment Address	5C
Specification Value	11.83 ± 0.01MHz

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	6	01		Read the data pf page : 6, address : 01, and record it.
3	6	01	47	After setting the data, press the PAUSE button.
4	F	5C		Change data using PLAY and STOP buttons so that the Y signal level (A) satisfies the specification. (Record mode)
5				Press the PAUSE button.
6	6	01		Set the data which is recorded in step 2 to this address and, press the PAUSE button.
7	6	00	00	After setting the data, press the PAUSE button. (End)

IR-28 BOARD (SIDE A)



5-3. VIDEO DEVIATION ADJUSTMENT

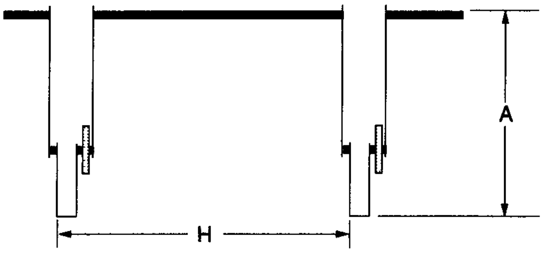
Purpose : Adjusts deviation when modulating the video signal.

Adjustment error : Too bright or too dark overall picture. Overmodulation picture. (If deviation is too wide, or too narrow.)

Mode	CAM-STANDBY
Signal	Any signal
Measurement Point	• VIDEO OUTPUT terminal of the unit (Terminated in 75Ω) • VIDEO OUTPUT terminal of IR receiver jig (Terminated in 75Ω)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	5D
Specification Value	B=Vo ± 0.05Vp-p

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	6	01		Read the data pf page : 6, address : 01, and record it.
3	6	01	47	After setting the data, press the PAUSE button.
4				Record the output level "A" of the VIDEO OUTPUT terminal of the unit, as Vo. (Vo ≒ 1.0 ± 0.05Vp-p)
5	F	5D		Change data using PLAY and STOP buttons so that the Y signal level (B) satisfies the output (B) specifications of the VIDEO OUTPUT terminal of IR receiving jig.
6				Press the PAUSE button.
7	6	01		Set the data which is recorded in step 2 to this address and, press the PAUSE button.
8	00	00	00	After setting the data, press the PAUSE button. (End)



5-4. AUDIO DEVIATION ADJUSTMENT

Purpose : Adjusts deviation when modulating the audio signal.

Adjustment error : Loss of tape iner change ability.

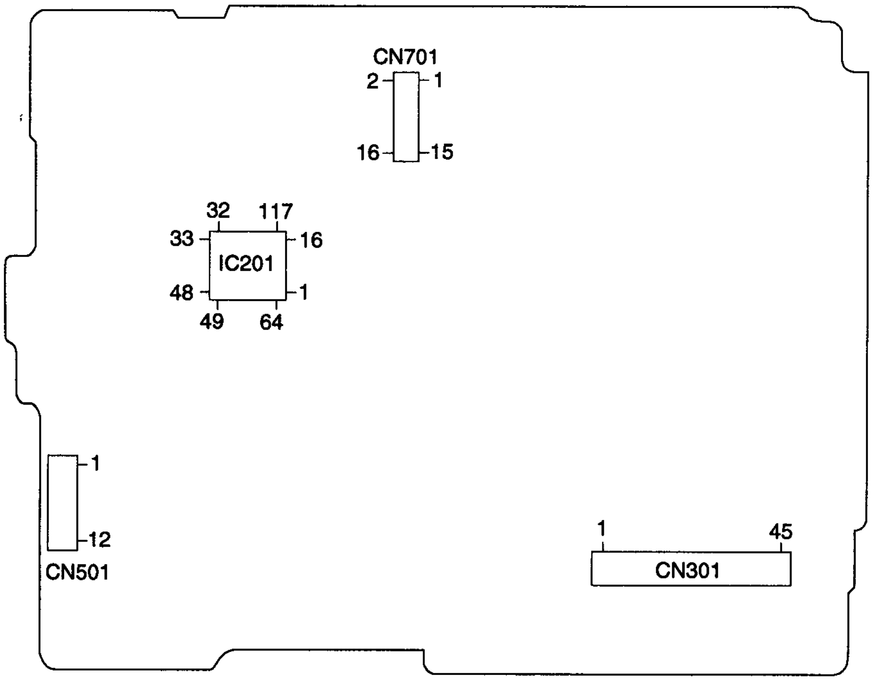
Mode	CAM-REC
Signal	EXT MIC terminal (L-ch and R-ch) of the unit 400Hz, –66dBs
Measurement Point	AUDIO output terminal (L/R) of IR receiver jig
Measuring Instrument	Audio level
Adjustment Page	F
Adjustment Address	5E
Specification Value	–7.5 ± 1.0dBs

Adjustment procedure:

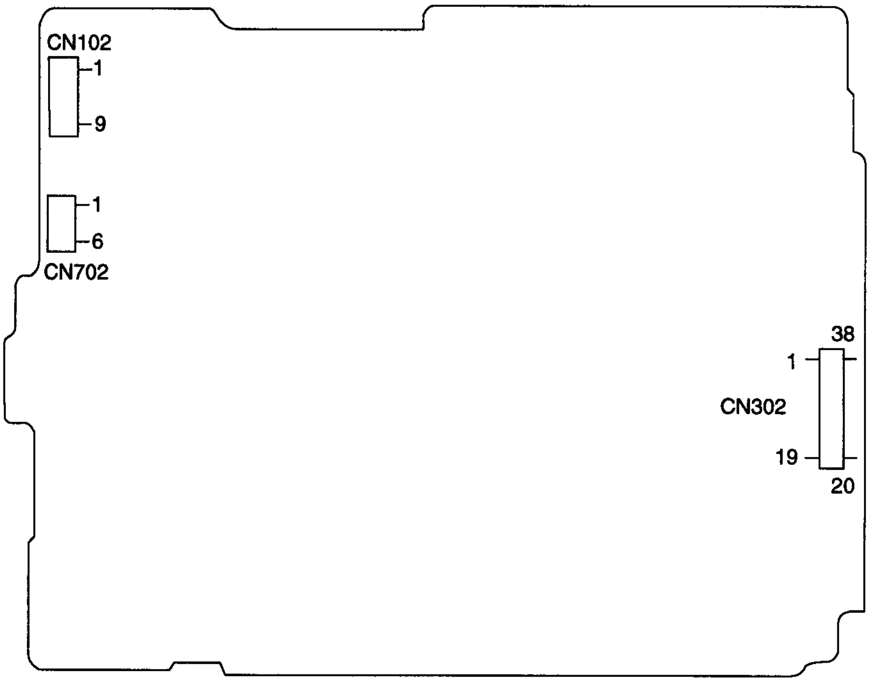
Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2				Input the audio signal of 400 Hz, –66dBs to the EXT MIC terminal (L-ch and R-ch) of the unit.
3	F	5E		Press the PLAY and STOP buttons until the audio signal level of both L-ch and R-ch satisfies the specifications.
4				Press the PAUSE button.
5	6	00	00	After setting the data, press the PAUSE button. (End)

ARRANGEMENT DIAGRAM FOR ADJUSTMENT PARTS

VC-188 BOARD (SIDE A)


CN701
2
1
16
15
32
117
33
16
IC201
48
1
49
64
1
12
CN501
1
45
CN301

VC-188 BOARD (SIDE B)


CN102
1
9
1
6
CN702
38
1
CN302
19
20

3-6. PLAYBACK FREQUENCY RESPONSE CHARACTERISTICS ADJUSTMENT

Purpose : Remove variation of picture quality between heads due to difference of characteristics.

Adjustment error : Flicker or over-modulation of playback picture.

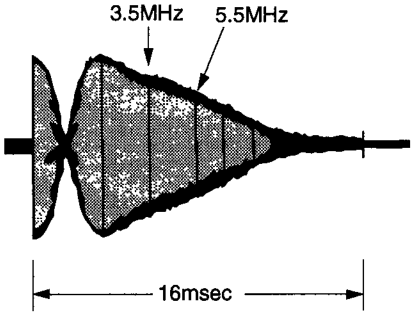
Mode	Playback
Signal	Alignment tape : Normal mode frequency response characteristics adjustment WR5-6C (PAL) WR5-6N (NTSC)
Measurement Point	Check connector (CH1 : CN102 pin ① (PB RF)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	38, 39 * (3A, 3B)
Specification Value	3.5MHz level : 5.5MHz level = 4 : (3.0 ± 0.2)

* : NTSC MODEL only

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	F	38		Change data using PLAY and STOP buttons to adjust the level ration between 3.5MHz level and 5.5MHz level of the PB RF waveform of channel "1a" satisfies the specification. Press the PAUSE button. Playback mode.
3	F	39		Adjust the channel "2a" in the same way (address 39). Press the PAUSE button. Playback mode.
4	F	01		Read the data of page : F, address : 01, and record it.
*5	F	01	10	After setting the data, press the PAUSE button. (Forced LP head selection)
*6	F	3A		Change data using PLAY and STOP buttons to adjust the level ration between 3.5MHz level and 5.5MHz level of the PB RF waveform of channel "1a" satisfies the specification. Press the PAUSE button. Playback mode.
*7	F	3B		Adjust the channel "2a" in the same way (address 3B). Press the PAUSE button. Playback mode.
*8	F	01		Set the data which is recorded in step 4 to this address and press the PAUSE button.
9	6	00	00	After setting the data, press the PAUSE button. (End)

Note : Perform the adjustment steps from 4 to 8 in the NTSC model only.



3-7. DEMD OUT LEVEL ADJUSTMENT

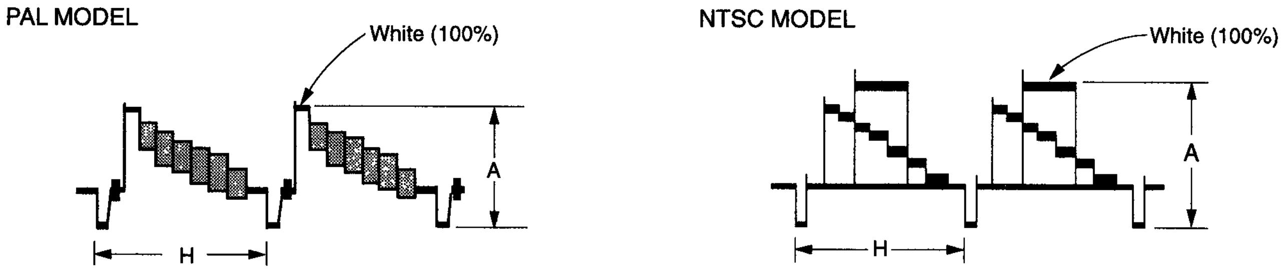
Purpose : The playback video level is kept to constant level.

Adjustment error : The playback picture can be brighter or darker than normal picture.

Mode	Playback
Signal	Alignment tape : Normal mode WR5-5CSP (PAL) WR5-5NSP (NTSC)
Measurement Point	IC201 pin ⑳ or CN102 pin ⑥
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	33
Specification Value	A=0.50 ± 0.01Vp-p

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	F	33		Change data using PLAY and STOP buttons so that the Y signal level (A) satisfies the specification.
3				Press the PAUSE button.
4	6	00	00	After setting the data, press the PAUSE button. (End)


PAL MODEL

NTSC MODEL

Fig. 6-3-1

3-8. YD OUT LEVEL ADJUSTMENT

Purpose : Minimizes the residual chroma component of Y comb filter output signal.

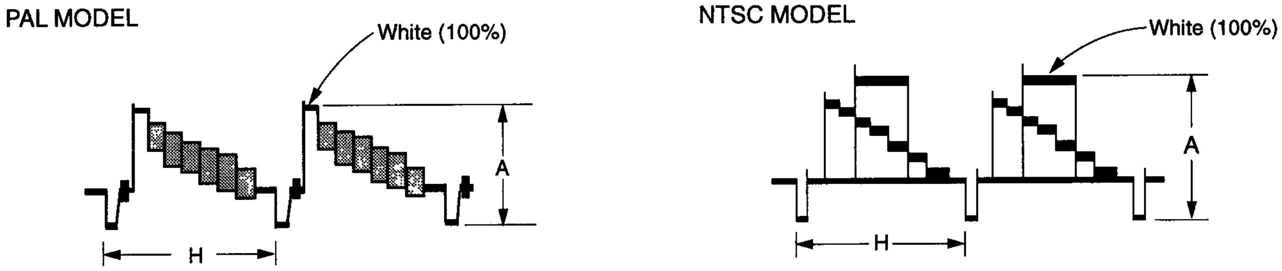
Adjustment error : Chroma flicker at video out (pin jack) of VTR overall characteristics. Color variations also significant.

Mode	Playback
Signal	Alignment tape : Normal mode WR5-5CSP (PAL) WR5-5NSP (NTSC)
Measurement Point	IC201 pin ㉔ or CN102 pin ⑤
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	3C
Specification Value	A=0.50 ± 0.01Vp-p

Note : Minimize the residual chroma to the smallest amplitude

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	F	3C		Change data using PLAY and STOP buttons so that the Y signal level (A) satisfies the specification.
3				Press the PAUSE button.
4	6	00	00	After setting the data, press the PAUSE button. (End)


PAL MODEL

NTSC MODEL

Fig. 6-3-2

Related Adjustments:

"Emphasis input level adjustment", "PB Y level adjustment", "Y FM carrier frequency adjustment"

3-9. PB CHROMA LEVEL CHECK

Purpose : The playback chroma level is kept to constant level.

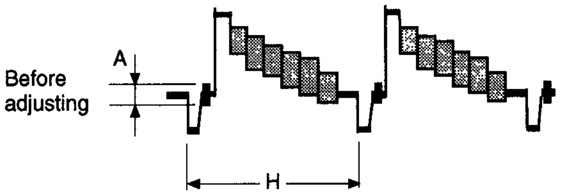
Adjustment error : Color of playback picture can be thinner or thicker than normal picture.

Mode	Playback
Signal	Alignment tape : color bar segment of operation check tape • Normal mode WR5-5CSP (PAL) WR5-5NSP (NTSC)
Measurement Point	CN102 pin ⑥
Measuring Instrument	Oscilloscope
Adjustment Page	—
Adjustment Address	—
Specification Value	A=150 ± 15mVp-p (BURST LEVEL)

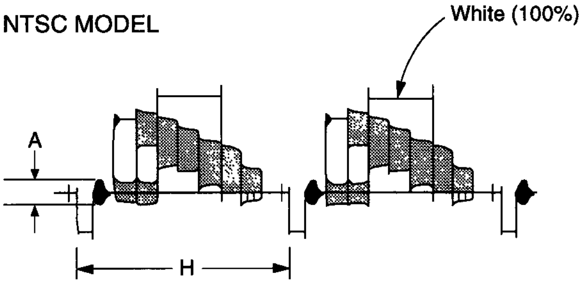
Adjustment procedure:

Order	Page	Address	Data	Procedure
1	—	—	—	Playback the color bar segment of the normal mode alignment tape.
2	—	—	—	Check that the burst signal level satisfies the specification.

PAL MODEL



NTSC MODEL



3-10. PB Y OUT LEVEL ADJUSTMENT

Purpose : Adjusts playback video level for the specification value.

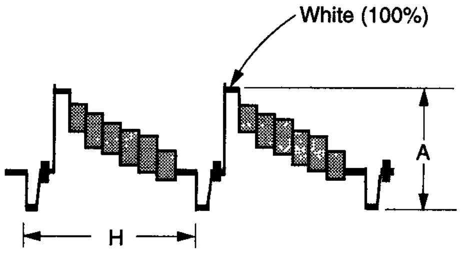
Adjustment error : Playback picture can be too brighter or too darker than normal picture.

Mode	Playback
Signal	Alignment tape : color bar segment of operation check tape • Normal mode WR5-5CSP (PAL) WR5-5NSP (NTSC)
Measurement Point	VIDEO output terminal (terminated in 75Ω)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	32
Specification Value	A=1.00 ± 0.05Vp-p

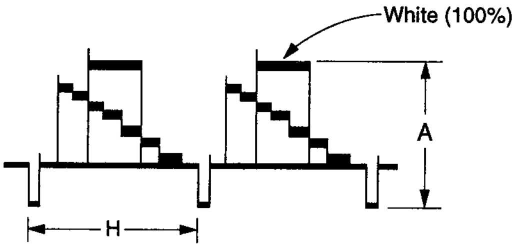
Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2				Playback the color bar segment of the normal alignment tape.
3	F	32		Change data using PLAY and STOP buttons so that the playback signal level (A) satisfies the specification.
4				Press the PAUSE button.
5	6	00	00	After setting the data, press the PAUSE button. (End)

PAL MODEL



NTSC MODEL



3-11. FE OSC CHECK

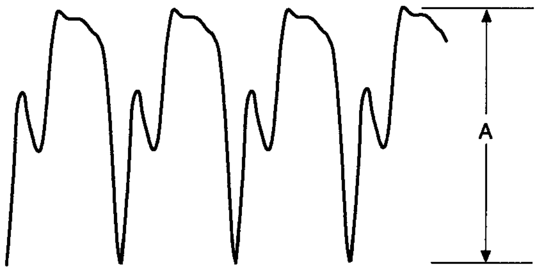
Purpose : Check the oscillating frequency and level of the flying erase (FE) signal.

Adjustment error : If REC-PAUSE recording is repeated, unerased area is left in the junctions between the editings which results in increase of noise or previous picture can be seen.

Mode	CAM-REC
Signal	Any signal
Measurement Point	CN101 pin ⑯
Measuring Instrument	Oscilloscope and frequency counter
Adjustment Page	—
Adjustment Address	—
Specification Value	A=7.0Vp-p or more (MP mode) A=6.0 ± 1.0Vp-p (ME mode) f=7.2 ± 0.5MHz (MP/ME mode)

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Insert a normal MP type tape.
2				Make a recording.
3				Check that the FE signal level satisfies the specification.
4				Check that the FE signal frequency satisfies the specification.
5				Insert a normal ME type tape.
6				Make a recording.
7				Check that the FE signal level satisfies the specification.
8				Check that the FE signal frequency satisfies the specification.



f=7.2 ±0.5MHz

3-12. EMPHASIS INPUT LEVEL ADJUSTMENT

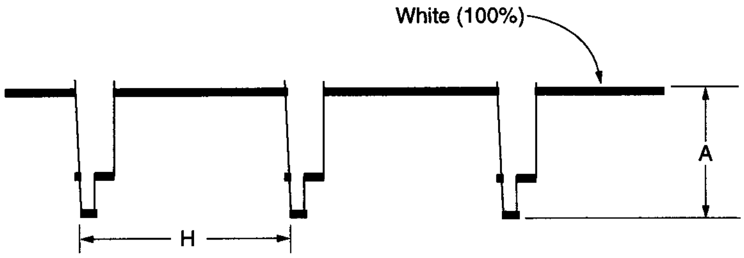
Purpose : Adjusts the record emphasis characteristics to the specification value.

Adjustment error : Luminance signal smear, blurred picture, too much emphasized edge of overall video characteristics.

Mode	CAM-REC
Signal	Color bar chart
Measurement Point	• CN102 Pin ④ • VIDEO output terminal (terminated in 75Ω)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	31
Specification Value	A=(Vo × 0.96 × 500) mVp-p ± 2%

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	6	01		Read the data of page : 6, address : 01, and record it.
3	6	01	47	After setting the data, press the PAUSE button.
4				Measure amplitude of the VIDEO OUT. The measured value is "Vo"[V].
5	F	31		Change data using PLAY and STOP buttons so that the Y signal level at CN102 pin④ (A) satisfies the specification.
6				Press the PAUSE button.
7	6	01		Set the data which is recorded in step 2 to this address and, press the PAUSE button.
8	6	00	00	After setting the data, press the PAUSE button. (End)



3-13. Y FM DEVIATION ADJUSTMENT (NOTE)

Purpose :	Adjusts the FM signal to be recorded on tape to the 8mm format. (Adjusts the frequency deviation of normal mode Y FM signal.)
Adjustment error :	Too bright or too dark overall picture. Overmodulation picture. (If deviation is too wide, or too narrow.)

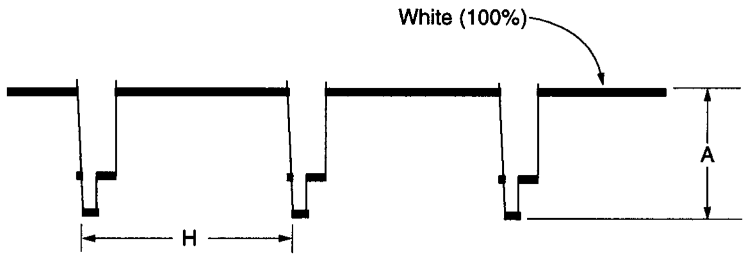
Mode	CAM-REC and playback
Signal	Color bar chart
Measurement Point	• VIDEO output terminal (terminated in 75Ω)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	2F
Specification Value	A=(Vo × 0.96)Vp-p ± 2%

Note : The "Emphasis input level adjustment", "PB Y level adjustment", must have already been completed.

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Insert a normal MP type tape.
2	6	00	01	After setting the data, press the PAUSE button. (Preparation)
3	6	01		Read the data of page : 6, address : 01, and record it.
4	6	01	47	After setting the data, press the PAUSE button.
5				Shoot and record the color bar chart. The video out level at that setup is "Vo".
6				Playback the recorded signal.
7				Compare the playback signal level (A) with the specification value. If the specification value is satisfied, the adjustment is complete.
8	F	2F		If the specification value is satisfied, change data using PLAY and STOP buttons. • If the playback signal level is bigger than the specification value, decrease the data. • If the playback signal level is smaller than the specification value, increase the data.
9				Press the PAUSE button.
10				Return to step 4.
11	6	01		Set the data which is recorded is step 3 to this address and, press the PAUSE button.
12	6	00	00	After setting the data, press the PAUSE button. (End)

Related Adjustments:
"Normal mode Y FM deviation adjustment"



3-14. Y FM CARRIER FREQUENCY ADJUSTMENT

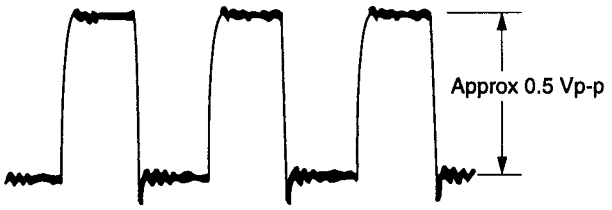
Purpose : Adjusts the FM signal to be recorded on tape to the 8 mm format. (Adjusts the carrier frequency of normal mode Y FM signal.)

Adjustment error : (If frequency is low) Overall picture will be blurred signal. (If frequency is high) Overall picture will have black streaking noise.
S/N will be deteriorated.

Mode	CAM-REC
Signal	Any signal
Measurement Point	IC201 pin (41)
Measuring Instrument	Frequency counter, Oscilloscope
Adjustment Page	F
Adjustment Address	30
Specification Value	4.20 ± 0.01MHz

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	6	01	43	After setting the data, press the PAUSE button.
3	F	30		Change data using PLAY and STOP buttons so that the carrier frequency satisfies the specification. (Record mode)
4				Press the PAUSE button.
5	6	01	00	After setting the data, press the PAUSE button.
6	6	00	00	After setting the data, press the PAUSE button. (End)



4.20 ±0.01MHz

3-15. CHROMA EMPHASIS fo ADJUSTMENT

Purpose : Adjust fo of the chroma emphasis to the specified frequency range.

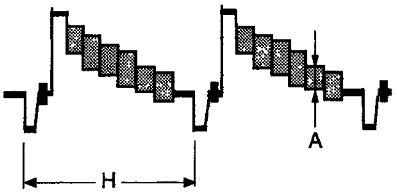
Adjustment error : The bust and chroma level becomes too big during playback.

Mode	Playback
Signal	Color bar signal WR5-5CSP (PAL) WR5-5NSP (NTSC)
Measurement Point	• VIDEO output terminal (terminated in 75Ω)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	34
Specification Value	Minimizes the chroma component (A in the following diagram)

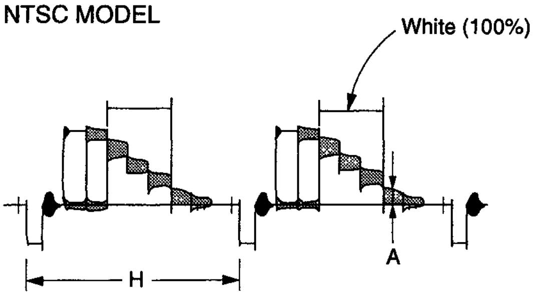
Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	F	34		Change data so that the chroma component (A) is minimized.
3				Press the PAUSE button.
4	6	00	00	After setting the data, press the PAUSE button. (End)

PAL MODEL



NTSC MODEL



3-16. REC Y LEVEL ADJUSTMENT

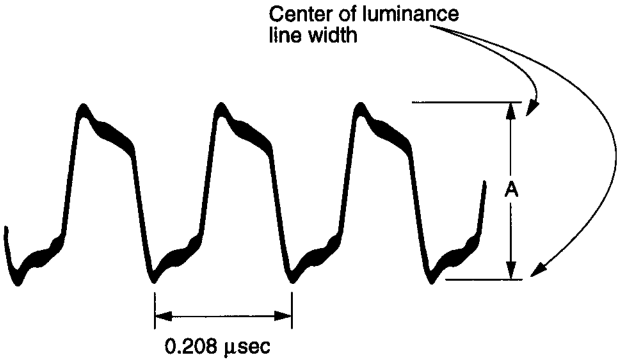
Purpose : Maintains a constant level of Y FM, chroma AFM and ATF signals when recording on tape.

Adjustment error : (If level is low) Poor S/N of playback picture
(If level is high) Black streaking noise appears.

Connection : Connect CN102 pin ⑧ (RF SWP) to GND.

Mode	CAM-REC (SP)
Signal	No signal
Measurement Point	CN102 pin ② (check connector)
Measuring Instrument	Oscilloscope (Note)
Adjustment Page	F
Adjustment Address	35
Specification Value	A=132 ± 5mVp-p (PAL) A=155 ± 5mVp-p (NTSC)

Note : Use the MP type tape. If an oscilloscope has the bandwidth limiting switch, set to on position.



Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2				Insert the MP tape to establish record mode.
3	6	01		Read the data of page : 6, address : 01, and record it.
4	6	01	43	After setting the data, press the PAUSE button.
5	F	35		Change data using PLAY and STOP buttons so that the REC Y RF level (A) satisfies the specification.
6				Press the PAUSE button.
7	6	01		Set the data which is recorded in step 3 to this address and, press the PAUSE button.
8	6	00	00	After setting the data, press the PAUSE button. (End)

3-17. REC C LEVEL ADJUSTMENT

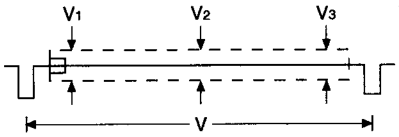
Purpose : Maintains a constant chroma level when recording on tape.

Adjustment error : If level is low, overall S/N deteriorates.
If level is high, S/N of Y signal at deep color deteriorates and white streaking noise appears.

Mode	CAM-REC
Signal	White pattern (See page 6-2)
Measurement Point	• CN102 pin ② (Check connector) • VIDEO output terminal (terminated in 75Ω)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	37
Specification Value	$A=\left(23.5 \times \frac{\overline{Vo}}{700}\right)$mVp-p ± 2mVp-p (PAL) $A=\left(32.4 \times \frac{\overline{Vo}}{714}\right)$mVp-p ± 2mVp-p (NTSC)

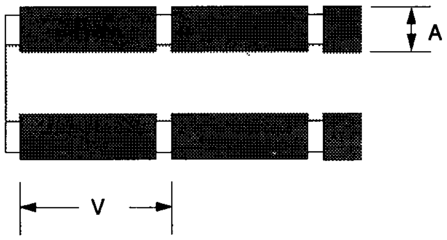
Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Shoot the all white pattern to the full picture frame.
2	6	00	01	After setting the data, press the PAUSE button. (Preparation)
3	6	01		Read the data pf page : 6, address : 01, and record it.
4	6	01	45	After setting the data, press the PAUSE button.
5				Measure the chroma output level of the VIDEO OUT connector. Obtain the average value of three points (beginning, middle, end) of a vertical period. Call the average value $\overline{Vo}$ (mV).
6	F	37		Change data using PLAY and STOP buttons so that the REC signal at CN102 pin ② amplitude (A) satisfies the specification.
7				Press the PAUSE button.
8	6	01		Set the data which is recorded in step 3 to this address and, press the PAUSE button.
9	6	00	00	After setting the data, press the PAUSE button. (End)



$$\overline{Vo}=\left(\frac{V_1+V_2+V_3}{3}\right)$$

VIDEO OUT Signal



6-4. AUDIO SYSTEM ADJUSTMENT

- The right channel (STEREO) adjustment is performed in STEREO MODEL only.
- Use the alignment tape for audio system adjustment.
- Connect an audio input signal from VC-188 board CN501 as shown in Fig.6-4-1.

Alignment tape

⟨MONO model⟩	WR5-5CSP : PAL WR5-5NSP : NTSC
⟨STEREO⟩	WR5-9CS : PAL WR5-9NS : NTSC

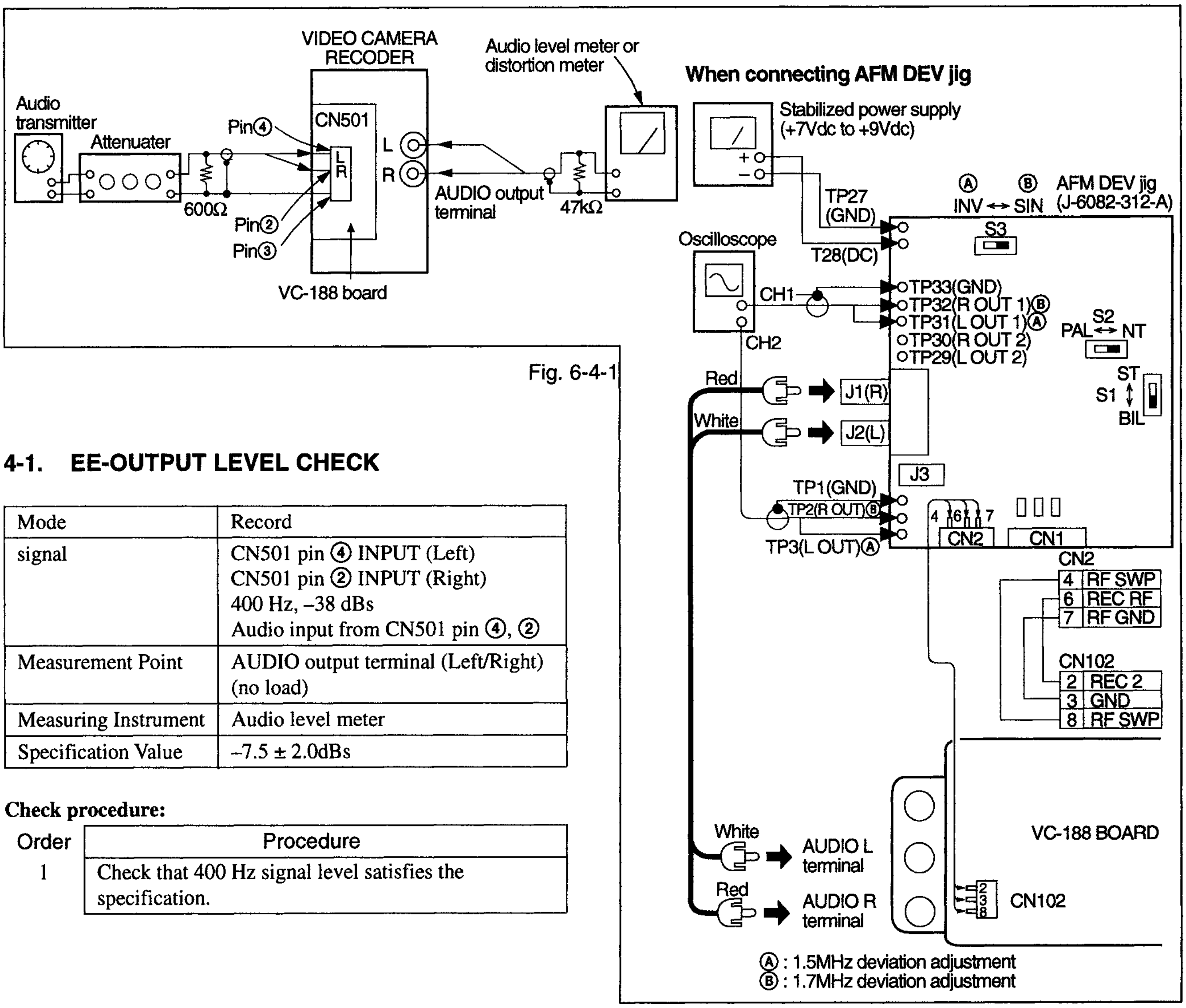

VIDEO CAMERA RECODER
Audio level meter or distortion meter
Audio transmitter
Attenuater
Pin④
CN501
L
R
600Ω
Pin②
Pin③
AUDIO output terminal
47kΩ
VC-188 board
When connecting AFM DEV jig
Stabilized power supply (+7Vdc to +9Vdc)
+
−
TP27 (GND)
T28(DC)
Ⓐ Ⓑ AFM DEV jig
INV↔SIN (J-6082-312-A)
S3
Oscilloscope
CH1
CH2
TP33(GND)
TP32(R OUT 1)Ⓑ
TP31(L OUT 1)Ⓐ
TP30(R OUT 2)
TP29(L OUT 2)
S2
PAL↔NT
ST
S1
BIL
Red
White
J1(R)
J2(L)
J3
TP1(GND)
TP2(R OUT)Ⓑ
TP3(L OUT)Ⓐ
4 6 7
CN2
CN1
CN2
4 RF SWP
6 REC RF
7 RF GND
CN102
2 REC 2
3 GND
8 RF SWP
VC-188 BOARD
White
AUDIO L terminal
Red
AUDIO R terminal
2 3 8
CN102
Ⓐ : 1.5MHz deviation adjustment
Ⓑ : 1.7MHz deviation adjustment

Fig. 6-4-1

4-1. EE-OUTPUT LEVEL CHECK

Mode	Record
signal	CN501 pin ④ INPUT (Left) CN501 pin ② INPUT (Right) 400 Hz, –38 dBs Audio input from CN501 pin ④, ②
Measurement Point	AUDIO output terminal (Left/Right) (no load)
Measuring Instrument	Audio level meter
Specification Value	–7.5 ± 2.0dBs

Check procedure:

Order	Procedure
1	Check that 400 Hz signal level satisfies the specification.

4-2. 1.5 MHz DEVIATION ADJUSTMENT (STEREO MODEL)

Purpose : Determines spectrum of the modulated L-ch (L+R/2 signal) signal during recording.

Adjustment error : Audio signal crosstalk deteriorates and audio level decreases in both record and playback modes.

Mode	Record
Signal	AFM DEV adjustment tool output signal to left and right channels of audio input connector
Measurement Point	CH1 : TP31 of the AFM DEV adjustment tool CH2 : TP3 of the AFM DEV adjustment tool
Measuring Instrument	Oscilloscope ADD mode CH2 INV mode
Adjustment Page	F
Adjustment Address	2C
Specification Value	Difference (A) between CH1 and CH2 signals is 40mV or less.

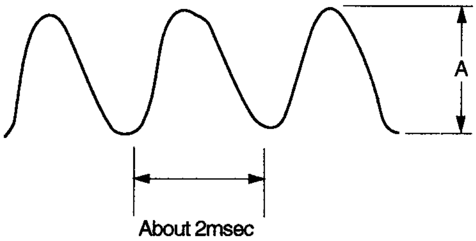
Connection

1) Connect CH2 of the AFM DEV adjustment tool and CN102 of VC-188 board.
2) Connect the audio output terminals (J1, J2) of the AFM DEV adjustment tool and Video/Audio input/output connector of the machine to be adjusted.
3) Connect DC power supply (+7 to +9V dc) to TP28 (DC), and TP27 (GND) of the AFM DEV adjustment tool.
4) Set the switches of the AFM DEV adjustment tool to the following positions.

S1 ——— BIL position
S2 ——— NT position
S3 ——— SIN position

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Select the same vertical sensitivity of CH1 and CH2 of oscilloscope.
2				Set the oscilloscope to ADD mode and set CH2 to INV mode.
3	6	00	01	After setting the data, press the PAUSE button. (Preparation)
4	F	2C		Change data using PLAY and STOP buttons so that the audio level difference (A) is minimized.
5				Press the PAUSE button.
6	6	00	00	After setting the data, press the PAUSE button. (End)



4-3. 1.7MHz DEVIATION ADJUSTMENT (STEREO MODEL)

Purpose : Determines spectrum of the modulated R-ch (L-R/2 signal) signal during recording.

Adjustment error : Audio signal crosstalk deteriorates and audio level decreases in both record and playback modes.

Mode	Record
Signal	AFM DEV adjustment tool output signal to left and right channels of audio input connector
Measurement Point	CH1: TP32 of the AFM DEV adjustment tool CH2: TP2 of the AFM DEV adjustment tool
Measuring Instrument	Oscilloscope ADD mode CH2 INV mode
Adjustment Page	F
Adjustment Address	2D
Specification Value	Difference (A) between CH1 and CH2 signals is 40mV or less.

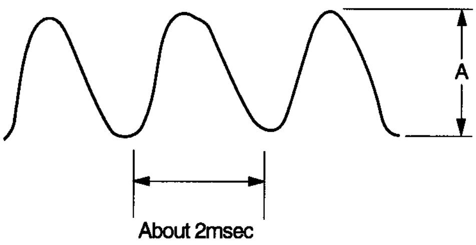
Connection

1) Connect CH2 of the AFM DEV adjustment tool and CN102 of VC-188 board.
2) Connect the audio output terminals (J1, J2) of the AFM DEV adjustment tool and Video/Audio input/output connector of the machine to be adjusted.
3) Connect DC power supply (+7 to +9Vdc) to TP28 (DC), and TP27 (GND) of the AFM DEV adjustment tool.
4) Set the switches of the AFM DEV adjustment tool to the following positions.

S1 ——— BIL position
S2 ——— NT position
S3 ——— INV position

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Select the same vertical sensitivity of CH1 and CH2 of oscilloscope.
2				Set the oscilloscope to ADD mode and set CH2 to INV mode.
3	6	00	01	After setting the data, press the PAUSE button. (Preparation)
4	F	2D		Change data using PLAY and STOP buttons so that the audio level difference (A) is minimized.
5				Press the PAUSE button.
6	6	00	00	After setting the data, press the PAUSE button. (End)



4-4. 1.5MHz DEVIATION ADJUSTMENT (MONO MODEL)

Purpose : 1.5MHz deviation adjustment. Error in this adjustment value means loss of tape inter change ability.

Mode	Playback
Signal	Alignment tape : For checking operations WR5-5CSP : PAL WR5-5NSP : NTSC
Measurement	AUDIO output terminal.
Measuring Instrument	Oscilloscope, level meter
Adjustment Page	F
Adjustment Address	2C
Specified Value	–7.5 ± 0.5dBs

Adjustment method:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	F	2C		Change the data with the PLAY and STOP buttons, and adjust the 400Hz signal level to specified value.
3				Press the PAUSE button.
4	6	00	00	After setting the data, press the PAUSE button. (End)

4-5. BPF fo ADJUSTMENT

Purpose : Optimizes fo of BPF inside IC.

Adjustment error : Incorrect discrimination of monaural/stereo and increase of noise at high output of audio volume are resulted.

Mode	Playback
Signal	Alignment tape ⟨MONO model⟩ WR5-5CSP : PAL WR5-5NSP : NTSC ⟨STEREO model⟩ WR5-9CS : PAL WR5-9NS : NTSC
Measurement Point	AUDIO output terminal (Left/Right)
Measuring Instrument	Audio level meter
Adjustment Page	F
Adjustment Address	2E
Specification Value	Distortion : 1% or less.

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2				Playback the 400Hz segment of the alignment tape.
3	F	2E		Change data using PLAY and STOP buttons so that distortion factor is minimized.
4				Press the PAUSE button.
5	6	00	00	After setting the data, press the PAUSE button. (End)

2-2. TAPE PATH ADJUSTMENT

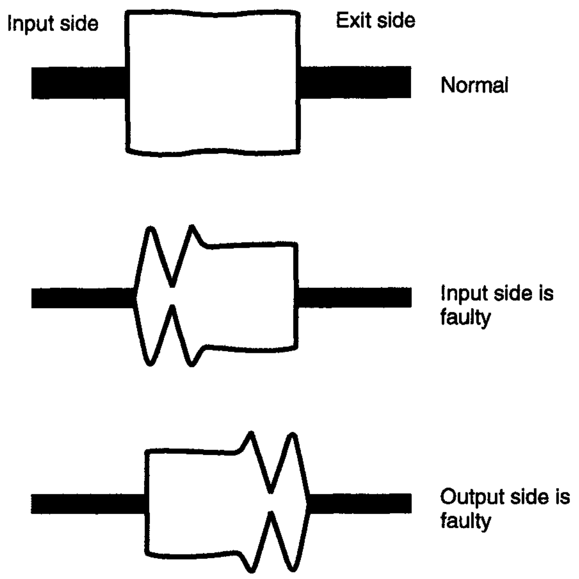
Purpose : Adjusts the head linearity.
Adjustment Error : Noise appears on top and bottom of display when playing back the tape recorded by other machines.

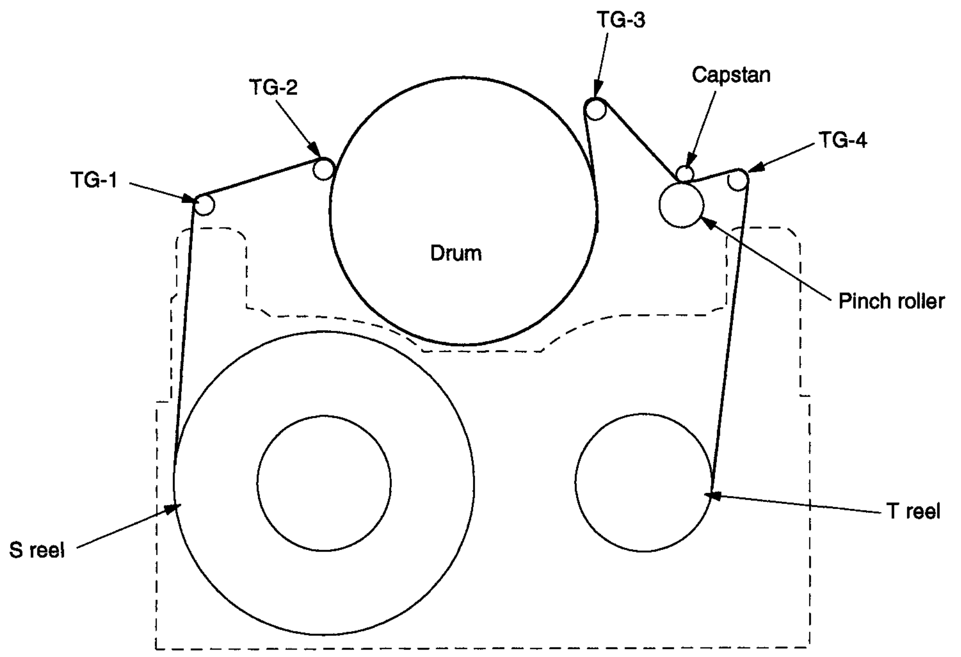
1. Preparations for adjustments

1) Clean the tape running surface (tape guide, drum, capstan, pinch roller).
2) Connect the adjustment remote commander to the REMOTE terminal (JACK block).
3) Set the NORM-ADJUST (HOLD) switch to ADJUST (ON) position.
4) Check that the main power is being supplied.
5) Select page : 6, address : 00, set data : 01 and press the PAUSE button.
6) Select page : F, address : 02, set data : 03 and press the PAUSE button.
7) Turn off the power supply once, then turn it on.
8) Connect an oscilloscope.
   CH1: VC-188 board CN102 pin ①.
   External trigger : VC-188 board CN102 pin ⑧.
9) Playback the tracking alignment tape.
   WR5-1NP : NTSC
   WR5-1CP : PAL
10) Check to see that RF waveform is flat at input and exit sides on oscilloscope.
    If it not flat. Tape Path Adjustment" of the 8mm Video Mechanism Section Adjustment Manual Ⅶ $\boxed{\text{B Mechanism}}$.
11) After completing the adjustment, perform "2-1-4. Processing after operation".

VC-188 board CN102

1	PB RF
2	REC 2
3	GND
4	EMPH IN
5	CAM Y IN
6	DEEMPH OUT
7	BPF ADJ
8	RF SWP
9	CAP FG





6-3. VIDEO SECTION ADJUSTMENT

When performing adjustments, refer to the layout diagrams for adjustment related parts beginning from page 6-86.

Perform the video section adjustment in the sequence as described.

[Adjustment sequence]

1) System control system adjustment
    1. Battery down voltage adjustment
    2. Battery down voltage check
2) Servo system adjustment
    1. SYNC level and BURST level adjustment.
    2. Switching position adjustment
    3. Capstan FG offset adjustment
3) Playback frequency response characteristics adjustment
4) DEMD OUT level adjustment
5) YD OUT LEVEL adjustment
6) PB Chroma level check
7) PB Y out level adjustment
8) FE OSC check
9) Emphasis input level adjustment
10) Y FM deviation adjustment
11) Y FM carrier frequency adjustment
12) Chroma emphasis fo adjustment
13) REC Y level adjustment
14) REC L level adjustment
15) REC C level adjustment

3-1. PREPARATIONS BEFORE ADJUSTMENT

The following measuring equipment are used for video section adjustment.

3-1-1. Equipment required

1) Monitor TV
2) Oscilloscope, dual trace, 30MHz bandwidth or more with delay mode function.
   (Use 10 :1 probe unless otherwise specified.)
3) Frequency counter
4) Digital voltmeter
5) Audio generator
6) Audio level meter
7) Audio distortion meter
8) Audio attenuator
9) Regulated power supply
10) Alignment tape
    ⟨For PAL model⟩
    - For tracking adjustment (WR5-1CP)
      Parts code : 8-967-995-07
    - For normal mode video frequency response adjustment (WR5-6C)
      Parts code : 8-967-995-17
    - For confirmation of normal mode operation
      for SP (WR5-5CSP)
      Parts code : 8-967-995-47
      or (WR5-4CSP)
      Parts code : 8-967-995-46
      or (WR5-9CS)
      Parts code : 8-967-995-28
      for LP (WR5-4CL)
      Parts code : 8-967-995-56

    ⟨For NTSC model⟩
    - For tracking adjustment (WR5-1NP)
      Parts code : 8-967-995-02
    - For normal mode video frequency response adjustment (WR5-6N)
      Parts code : 8-967-995-12
    - For confirmation of normal mode operation
      for SP (WR5-5NSP)
      Parts code : 8-967-995-42
      or (WR5-4NSP)
      Parts code : 8-967-995-41
      or (WR5-9NS)
      Parts code : 8-967-995-23
      for LP (WR5-4NL)
      Parts code : 8-967-995-51

3-1-2. Precautions on adjustment

The EVF (electronic viewfinder) is not necessary for video section adjustment.
Remove the following connector to remove the EVF.

1. CF-45/46 board CN403 (8-pin) : B/W EVF model
   CF-45/46 board CN404 (16-pin) : COLOR EVF model

The audio board (MA-296/297) board is not necessary except for "Audio System Adjustments". Remove the following connectors.

1. VC-188 board CN501 (12-pin)

After completing all adjustments, release the adjustment mode by either of the following two methods.

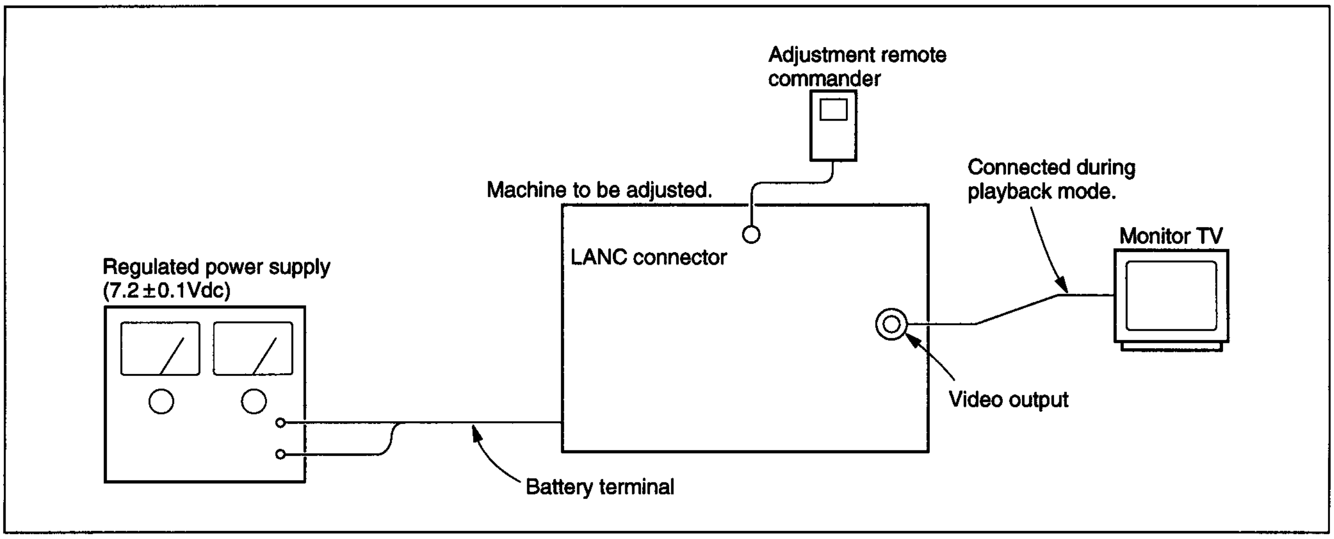
1) Remove the lithium battery. (In this case, data time and menu setting by users are erased. Input these data again.)
2) Return the data of the address : 00 on page : 6 to 00. If the page : 2 data is changed, return the data to the original value.

3-1-3. Adjustment connector (VC-188 Board CN102)

Some video section adjustment points are concentrated to the VC-188 board CN102. Connect the measuring equipment via the tool (Multi CPC: J-6082-311-A).

Pin No.	Signal Name
1	PB RF
2	REC 2
3	GND
4	EMPH IN
5	CAM Y IN
6	DEEMPH OUT
7	BPF ADJ
8	RF SWP
9	CAP FG

3-1-4. Equipment connection


Adjustment remote commander
Machine to be adjusted.
Connected during playback mode.
Monitor TV
LANC connector
Regulated power supply (7.2±0.1Vdc)
Video output
Battery terminal

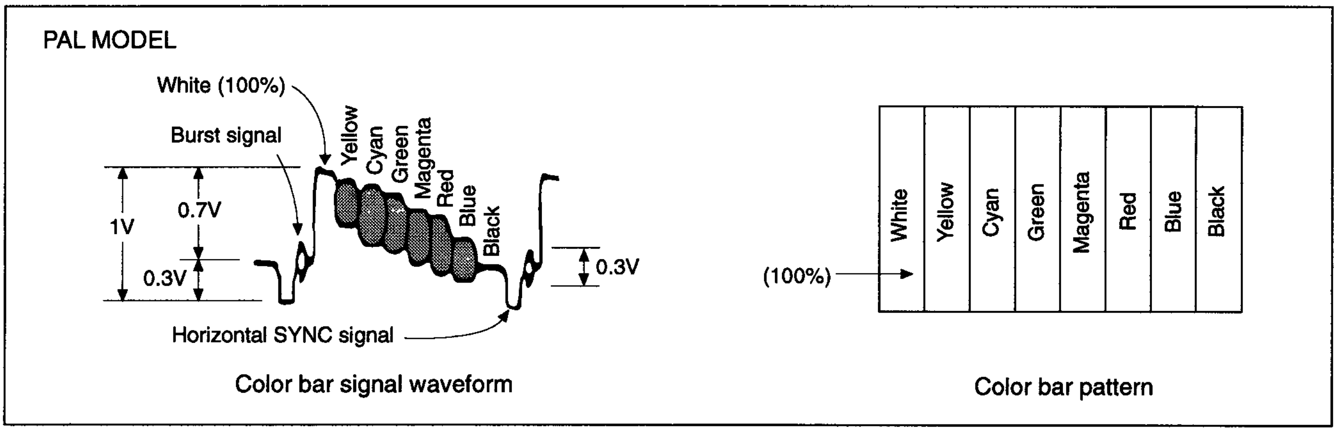
3-1-5. Alignment tape

The following table shows the alignment tapes available.
Use the tape specified in the signal column for each adjustment.
If tape type is not specified in the adjustments which use the "Operation Check" tape, use any type of tape for the checking purpose.

Name	Record Mode	Tape Type	Tape Speed	Use
Tracking WR5-1CP/1NP	Normal	MP	SP	Tape path adjustment Switching position adjustment
Video frequency response adjustment WR5-6C/6N	Normal	MP	SP	Frequency response adjustment
Operation check (SP mode) WR5-5CSP/5NSP	Normal	MP	SP	Operation check
Operation check WR5-4CL/4NL	Normal	MP	LP	
Operation check WR5-9CS/9NS	Normal	MP	SP	

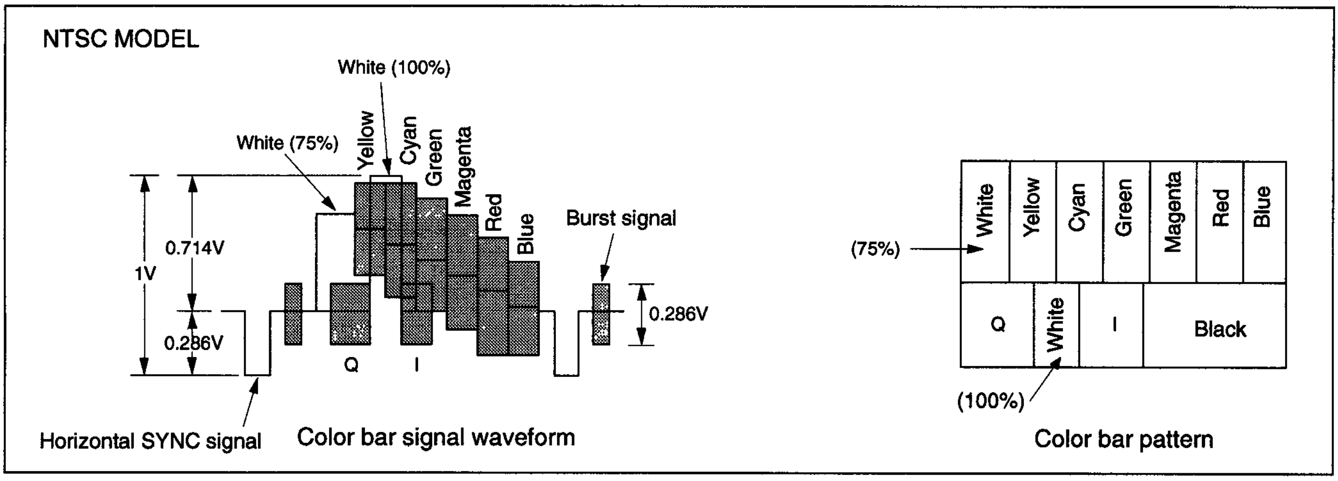
Note : Tape type
MP — Metal particle tape

The color bar signal which is recorded in the alignment tape.
Note : Measured at video input/output connector (across 75 termination).


PAL MODEL
White (100%)
Burst signal
Yellow
Cyan
Green
Magenta
Red
Blue
Black
1V
0.7V
0.3V
0.3V
Horizontal SYNC signal
(100%)
White
Yellow
Cyan
Green
Magenta
Red
Blue
Black
Color bar signal waveform

Color bar pattern

Color bar signal of PAL alignment tape


NTSC MODEL
White (100%)
White (75%)
Yellow
Cyan
Green
Magenta
Red
Blue
Burst signal
0.714V
1V
0.286V
0.286V
Q
I
Horizontal SYNC signal
(75%)
White
Yellow
Cyan
Green
Magenta
Red
Blue
Q
White
I
Black
(100%)
Color bar signal waveform

Color bar pattern

Color bar signal of NTSC alignment tape

3-1-6. Output level and impedance

Video output	Pin jack Output signal : 1Vp-p, 75Ω unbalanced, sync negative
Audio output	Pin jack Input level : –7.5dBs (across 47kΩ load)) Output impedance : 2.2kΩ or less

3-2. ADJUSTMENT POINTS WHEN MAJOR PARTS ARE REPLACED

1. When drum is replaced:

"Tape Path Position Adjustment" of mechanical section adjustment
"PB RF frequency response characteristics adjustment" of the video section adjustment
"Switching position adjustment" of the servo section adjustment

3-3. POWER SUPPLY SYSTEM ADJUSTMENT

1. Power supply voltage check (VC-188 board)

Mode	Camera record
Subject	Any subject
Measuring Equipment	Digital voltmeter
MT5V check	
Measuring Point	CN301 pin ㉚
Specification Value	5.0 ± 0.15Vdc
DIG 3V check	
Measuring Point	CN301 pin ㉓
Specification Value	3.16 ± 0.1Vdc
AU 3 V check	
Measuring Point	CN501 pin ⑤
Specification Value	3.18 ± 0.1Vdc
EVF 5V check (camera mode)	
Measuring Point	CN301 pin ㉟㊱
Specification Value	4.85 ± 0.15Vdc
EVF15 V check	
Measuring Point	CN301 pin ㉞
Specification Value	14.95 ± 0.4Vdc

2. VTR & CAM mode ON

Mode	Stop
Signal	Any signal
Adjustment Page	F
Adjustment Address	02

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Set the remote commander (RM-95) to HOLD (adjustment position), and turn on the UNREG power supply.
2	6	00	01	After setting the data, press the PAUSE button. (Preparation)
3	F	02	03	After setting the data, press the PAUSE button.
4				Turn off the UNREG power supply once, then turn it on.

How to cancel the VTR &CAM mode ON.

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button.
2	F	02	00	After setting the data, press the PAUSE button.
3				Turn off the UNREG power supply once, then turn it on.

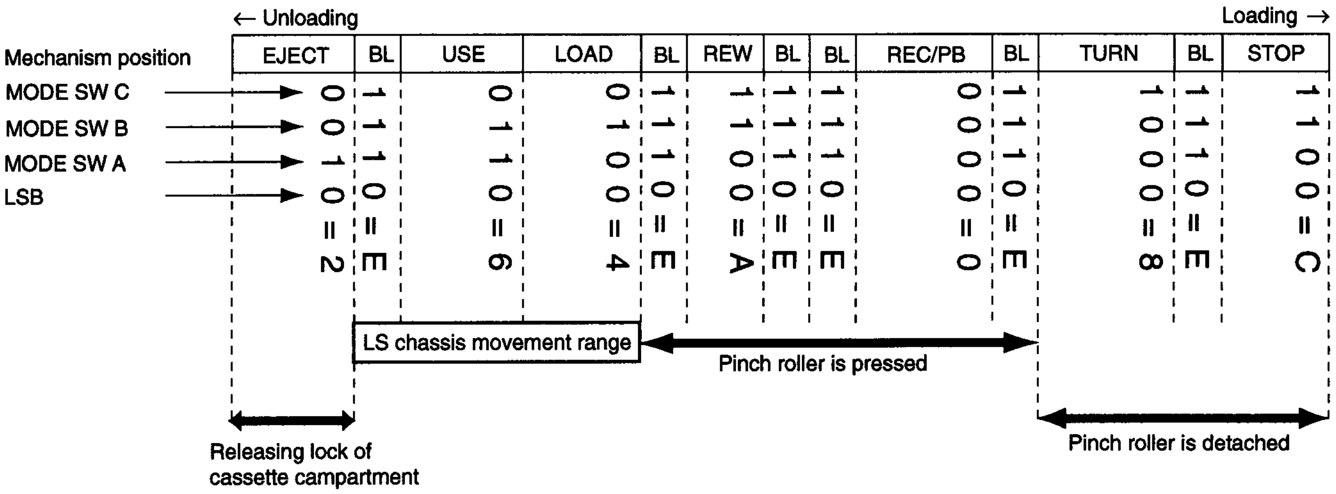
3. EMG code (Emergency code)

The emergency codes are stored in the addresses : E4, E8 and EC corresponding to the type of errors occurred. Types of error code are shown in the following table.

Code	Error Status
00	No error
10	Loading motor error during loading
11	Loading motor error during unloading
20	T reel error during unloading
21	S reel error during unloading
22	T reel error in normal mode
23	S reel error in normal mode
30	FG error during capstan startup
31	FG error during capstan normal speed
40	FG error during drum startup
41	FG error during drum startup
42	FG error during normal rotation of drum
43	Not used
44	Phase error during normal rotation of drum

4. MSW code

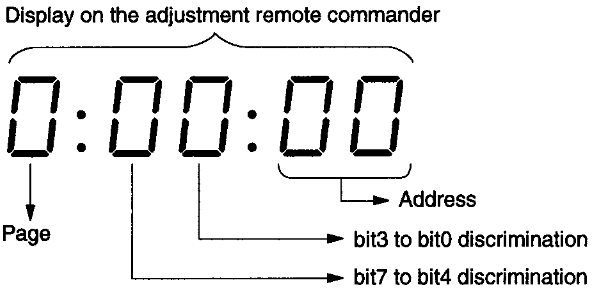
- The lower digit data of the page F : address : E6, EA and EE indicate the MSW code (mode switch code) when an error occurs.
- The upper digit data of the page F : address : E6, EA and EE indicate the MSW code (mode switch code) of mode transition (mode SW code before mode transition) when an error occurs.
- The lower digit data of the page F: address: E7, EB and EF indicate the MSW code (mode switch code) of transition target (code to which the machine is going to enter) when an error occurs.


← Unloading
Loading →
Mechanism position
EJECT
BL
USE
LOAD
BL
REW
BL
BL
REC/PB
BL
TURN
BL
STOP
MODE SW C
MODE SW B
MODE SW A
LSB
0 0 1 0 = 2
1 1 1 0 = E
0 1 1 0 = 6
0 1 0 0 = 4
1 1 1 0 = E
1 1 0 0 = A
1 1 1 0 = E
1 1 1 0 = E
0 0 0 0 = 0
1 1 1 0 = E
1 0 0 0 = 8
1 1 1 0 = E
1 1 0 0 = C
LS chassis movement range
Pinch roller is pressed
Releasing lock of cassette campartment
Pinch roller is detached

Mechanism Position	MSW Code	Detail of Content
EJECT	2	The position where the cassette compartment lock is released. The end position in the unthread-end direction. The mechanism does not move any more in the direction of unloading direction.
BL	E	Blank code. The code which separates a code from another code. The machine does not stop at the code while is it operating.
USE	6	EJECT completed position. If a cassette is ejected, it stops at this position. If mechanism moves in the loading direction, the TG1 guide and the TG9 guide start moving.
LOAD	4	The code during loading and unloading. This code is output while the LS chassis is moving.
REW	A	REW position. The position to activate the REW and FR/REV.
RP	0	PB, REC, CUE REV and PAUSE position. The pinch roller is pressed and the tension regulator is turned ON.
TURN	8	The position which is used to move the swing gear from S to T or from T to S. Normal STOP position.
STOP	C	The pinch roller is detached, tension regulator is turned OFF, and both reels are braked. Mechanism does not move any more in the loading direction.

5. Bit value discrimination

Bit values must be discriminated using the display data of the adjustment remote commander for the following items. Us the table below to discriminate if the bit value is "1" or "0".


Display on the adjustment remote commander
0:00:00
Address
Page
bit3 to bit0 discrimination
bit7 to bit4 discrimination

(Example) If the remote commander display is "8E", bit value from bit 7 to bit 4 can be discriminated from the column Ⓐ, and those from bit 3 to bit 0 from column Ⓑ.

Display on the adjustment remote commander	Bit values			
	bit3 or bit7	bit2 or bit6	bit1 or bit5	bit0 or bit4
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
Ⓐ 8	1	0	0	0
9	1	0	0	1
A (A)	1	0	1	0
B (b)	1	0	1	1
C (C)	1	1	0	0
D (d)	1	1	0	1
Ⓑ E (E)	1	1	1	0
F (F)	1	1	1	1

6. Initializing the emergency code area

(Caution) Perform the initializing operation only when the past emergency codes can be deleted.

Operating procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	6	11	00	After setting the data, press the PAUSE button.
3	6	01	4D	After setting the data, press the PAUSE button.
4	6	11	01	After setting the data, press the PAUSE button.
5	F	E4~EF	00	After setting the data, press the PAUSE button.
6	6	01	00	After setting the data, press the PAUSE button.
7	6	00	00	After setting the data, press the PAUSE button. (End)

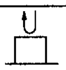
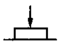
7. LED check

Data	Operation
00	Normal
10	Tally LED lights.

Operating procedure:

Order	Page	Address	Date	Procedure
1				Turn CAM POWER ON.
2				Check LED.
3	2	00	00	After setting the data, press the PAUSE button.
4	2	A0	10	Tally LED light.

8. Key input check (CF-45/46 Board IC 402 ㉗, ㉘, S415, S/S MODE SW)

Bit	Key Switch	Switch Condition
Bit0 : 0 Bit1 : 0		
Bit0 : 1 Bit1 : 0	5 SEC	"1"=OFF "0"=ON
Bit0 : 0 Bit1 : 1		

Operating procedure:

Order	Page	Address	Data	Procedure
1	2	00	01	After setting the data, press the PAUSE button.
2	2	20		ON/OFF of each key switch can be known by discriminating the bit value of each display data.

9. Key input check

Bit	Key Switch	Switch Condition
0		"1" =OFF "0"=ON
1		
2	Cassette eject	
3	Video power supply (PLAYER) (VTR : E model)	
4	CC DOWN	
5	Start/Stop	
6	Camera power supply (CAM + STBY)	

Operating procedure:

Order	Page	Address	Data	Procedure
1	2	00	3F	After setting the data, press the PAUSE button.
2	2	01		ON/OFF of each key switch can be known by discriminating the bit value of each display data.

10. Key input check (A/D port)

- CF-45/46 board

Display data / Address	00 ~ 0B	0C ~ 27	28 ~ 49	4A ~ 76	77 ~ A9	AA ~ E3	E4 ~ FF
2F (KEY AD0 : IC402 (82))	• STOP (VC-188 board S302)	• FF (VC-188 board S303)	• PB (VC-188 board S304)	• REW (VC-188 board S305)	• EDIT (+) (VC-188 board S306)	• EDIT (–) (VC-188 board S307)	
30 (KEY AD1 : IC402 (83))	• TITLE (S412)	• PICTURE EFFECT (S413)	• MENU (S414)	• PAUSE (VC-188 board S301)	• IR (VC-188 board S308)		
31 (KEY AD2 : IC402 (84))	• DATE (S411)	• BACK LIGHT (S410)	• FADER (S409)	• DISPLAY (S408)	• END SEARCH (S407)		
32 (KEY AD3 : IC402 (85))	• TIME (S406)	• COUNTER RESET (S405)	•EXECUTE (S401)	• WIDE (S404)			
33 (KEY AD4 : IC402 (86))	• PROGRAM AE *(S991)〈S1991〉	• VOLUME (–) *(S992)〈S1992〉	• VOLUME (+) *(S993)〈S1993〉	• LCD BRT (–) *(S994)〈S1994〉	• LCD BRT (+) *(S995)〈S1995〉		
37 (PROGRAM AE : IC402 (91))	PORTRAIT	SPORTS	HI-SPEED	TWILIGHT			AUTO
	(S416)						

* : ( ) SD-24, PD-74/76 BOARD
〈 〉SD-25, PD-75/77 BOARD

Operating procedure:

Order	Page	Address	Data	Procedure
1	2	00	01	After setting the data, press the PAUSE button.
2	2	37 2F to 33		From the display data of each address, it can be known which key is being pressed.

11. Individual operation of drum, capstan and loading motor

Data	Operation
00	Normal
02	Drum rotation in normal direction
06	Capstan rotation in normal direction
08	Capstan rotation in reverse direction
0A	Loading motor rotation in normal direction
0C	Loading motor rotation in reverse direction
01	All motors stop.
03	
05	
07	
09	
0B	
0D	
0F	

Note : Check the motors after removing the tape.

Operating procedure:

Order	Page	Address	Data	Procedure
1	2	00	02	After setting the data, press the PAUSE button.
2	7	0E	01	Individual operation of motors is approved.
3	7	11		Motor can be operated individually by setting the above described data.
4				Turn the main power (7.2V) OFF.

12. Drum use history check

Page 0	Address 02 to 04

Address	Function		Remarks
02	Accumulated drum rotation time (BCD code)	Hour	10th digit and 1st digit of the accumulated time (decimal numbers)
03		×100 Hour	1000th digit and 100th digit of the accumulated time (decimal numbers)
04		Minute	

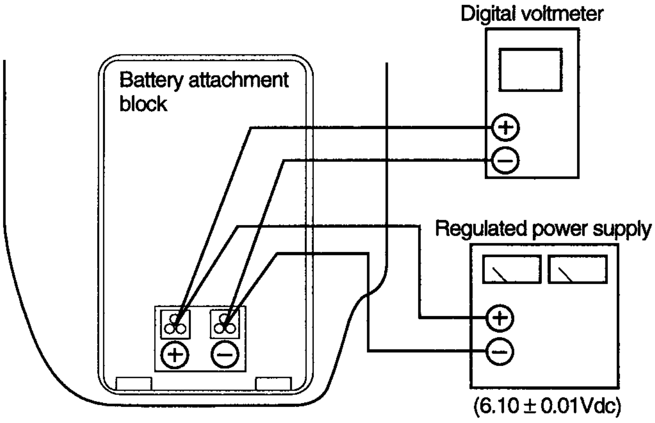
How to use:

1) The record of use data is displayed at addresses : 02 to 04 on page 0.

Note : This data will be cleared when the button battery is removed (reset). Be sure to read the data before disassembling the set.

3-4. SYSTEM CONTROL SYSTEM ADJUSTMENTS

1. Battery down voltage adjustment



Purpose : Sets the end voltage of battery discharge.
Adjustment Error : Usable period of a battery will be shortened, or picture will be distorted at the battery end.

Mode	Camera record
Subject	Any subject
Measurement Point	LCD display of the adjustment
Measuring Instruments	remote commander
Adjustment Page	F
Adjustment Address	26, 27, 28, 29, 2A

Note 1 : Set the AUTO FOCUS to OFF (MANUAL).

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Adjust the output voltage of the regulated power supply so that the digital voltmeter indicates 6.10 ± 0.01Vdc.
2				Insert a cassette and enter the camera recording mode. (CAM REC) After CAM REC is stabilized (after elapse of about 5 seconds or more), proceed to the next step.
3	6	00	01	After setting the data and press the PAUSE button of the adjusting remote commander.
4				Adjust the output voltage of the regulated power supply so that the digital voltmeter indicates 5.50 ± 0.01Vdc.
5	2	00	01	After setting the data and press the PAUSE button of the adjusting remote commander.
6	2	39		Read the data displayed on the adjustment remote commander. This data is named Dref.
7	F	2A		After setting the data Dref and press thePAUSE button of the adjusting remote commander.
8				Convert Dref into the decimal number. The result decimal number is Dref '. (Note 2)
9	F	 26 27 28 29		Calculate the following equation (decimal calculation) to obtain the following adjustment data (decimal number). Convert the adjustment data into hexadecimal numbers respectively, and set the hexadecimal data into the respective adjustment addresses. (Note2) After setting the data, be sure to press the PAUSE button of the adjusting remote commander. Address : 0F D_{OF} ' = Dref '+ 19 Address : 0E D_{OE} ' = Dref '+ 16 Address : 0D D_{OD} ' = Dref '+ 12 Address : 0C D_{OC} ' = Dref '+ 6
10	2	00	00	After setting the data and press the PAUSE button of the adjusting remote commander.
11	6	00	00	After setting the data and press the PAUSE button of the adjusting remote commander.
12				Turn off the main power.

Note 2 : Refer to the "Hexadecimal-Conversion Table" on page 6-12 , or ⟨Conversion between the hexadecimal number to decimal number⟩ and ⟨How to convert the decimal number to hexadecimal number⟩ on page 6-13 of the Service Manual, conversion between decimal number s and hexadecimal numbers.

2. Battery down voltage check

Connection : Same connection as item "1. Battery down voltage adjustment".

Order	Procedure
1	Adjust the output voltage of the regulated power supply so that the digital voltmeter indicates 6.10 ± 0.01Vdc.
2	Insert a cassette and enter the camera recording mode. (CAM REC)
3	Adjust the output voltage of the regulated power supply so that the digital voltmeter indicates 5.53 ± 0.01Vdc.
4	Confirm that the battery down indication 🔋 on the TALLY LED and EVF flashes at the rate of 0.8Hz.
5	Adjust the output voltage of the regulated power supply so that the digital voltmeter indicates 5.25 ± 0.01Vdc.
6	Confirm that the battery down indication 🔋 on the TALLY LED and EVF flashes at the rate of 3.2Hz.
7	Press the START/STOP key. (CAM STBY)

3-5. SERVO SYSTEM ADJUSTMENTS

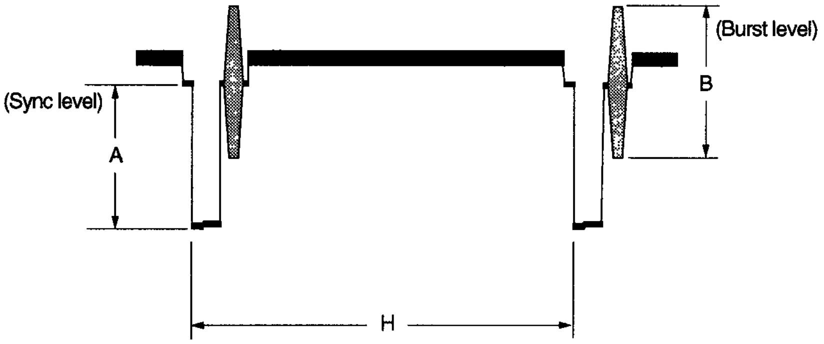
1. SYNC level and BURST level adjustments

Purpose :	Adjust the sync and burst level of the camera output to the specified values.
Adjustment error :	The playback machine can lose lock of the servo systems if the sync level is too low. The playback color will become too thick if the burst level is low.

Mode	Camera record
Subject	Color bar chart: standard picture frame
Measurement point	VIDEO output terminal (terminated in 75Ω)
Measuring equipment	Oscilloscope
Adjustment page	F
Adjustment address	3E (SYNC LEVEL) 3F (BURST LEVEL)
Specifications	SYNC LEVEL : A=300 ± 10mV (PAL) A=286 ± 10mV (NTSC) BURST LEVEL : B=300 ± 6mV (PAL) B=286 ± 6mV (NTSC)

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	6	01	03	After setting the data, press the PAUSE button.
3	F	3E		Change the data using the PLAY and STOP buttons until the SYNC LEVEL (A) satisfies the specification.
4				Press the PAUSE button.
5	F	3F		Change the data using the PLAY and STOP buttons until the BURST LEVEL (B) satisfies the specification.
6				Press the PAUSE button.
7	6	01	00	After setting the data, press the PAUSE button.
8	6	00	00	After setting the data, press the PAUSE button. (End)



2. Switching position adjustment

Purpose : Removes vertical mechanical error of head assembling.

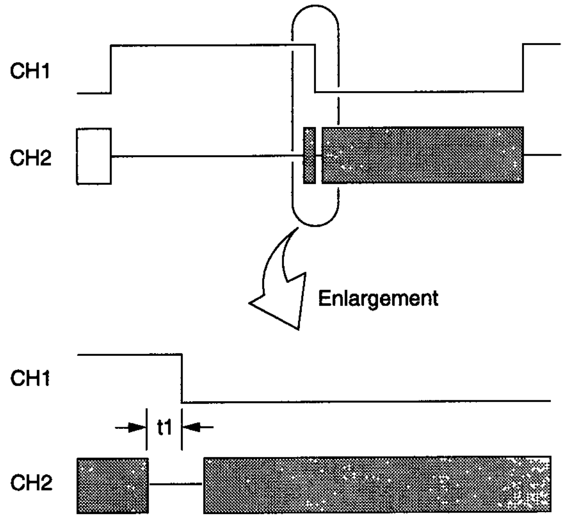
Adjustment error : Skew picture.

Mode	Playback
Signal	Alignment tape : For adjustment tracking WR5-1CP (PAL) WR5-1NP (NTSC)
Measurement Point	CH1 : ⑧ of CN102 (RF SWP) CH2 : ① of CN102 (PB RF)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	22, 23 * (24, 25)
Specification Value	t1= 0 ± 10μsec

* : NTSC MODEL only

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	F	23	80	Initial setting.
3	F	23		Change the data with the PLAY and STOP buttons, and minimize t1.
4				Press the PAUSE button.
5	F	22		Change the data with the PLAY and STOP buttons, and minimize t1.
6				Press the PAUSE button.
7				Check that t1 satisfies the specified value. If not, repeat steps 3 to 6 in order.
*8	F	01		Raed the data of page : F, address : 01, and record it.
*9	F	01	10	After setting the data, Press the PAUSE button. (Forced LP head selection)
*10	F	25	80	Initial setting.
*11	F	25		Change the data with the PLAY and STOP buttons, and minimize t1.
*12				Press the PAUSE button.
*13	F	24		Change the data with the PLAY and STOP buttons, and minimize t1.
*14				Press the PAUSE button.
*15				Check that t1 satisfies the specified value. If not, repeat steps 10 to 13 in order.
*16	F	01		Set the data which is recorded in step 8 to this address and press the PAUSE button.
17	6	00	00	After setting the data, press the PAUSE button. (End)



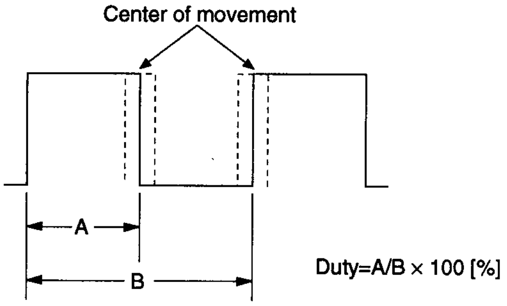
3. Capstan FG offset adjustment

Purpose : Adjusts duty ratio of capstan FG signal
Adjustment error : Jitter can increase.

Mode	CAM-REC (SP)
Signal	Any signal
Measurement Point	CN102 pin ⑨
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	2B
Specification Value	Duty = 50 ± 1.5%

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	F	2B	80	After setting the data, press the PAUSE button.
3	F	2B		Change data using PLAY and STOP buttons so that the duty ratio A/B satisfies the specification.
4				Press the PAUSE button.
5	6	00	00	After setting the data, press the PAUSE button. (End)



19-2. EVR initial data input

Mode	Stop
Signal	Any video signal
Adjustment page	F

Input procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	Set the data.
2	F	CC CD CE CF D0 D1 D2 D3 D4 D5 D6 D7	A0 AE (75) 95 (50) 7A 6A 70 90 40 7A 7A 70 05	After setting the data, press the PAUSE button.
3	6	00	00	Set the data.

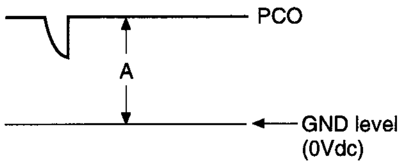
No mark : NTSC/PAL
( ): PAL

19-3. PCO adjustment (VF-110 board)

Purpose : To make the TG frequency constant (amplitude).

Adjustment error : VF picture will lose sync when error is large.

Mode	VTR stop
Signal	No signal
Measurement Point	VF-110 board CN702 pin ⑩ (PCO)
Measuring Equipment	Oscilloscope (DC range)
Adjustment Page	F
Adjustment Address	D2
Specification Value	A=1.80 ± 0.05V



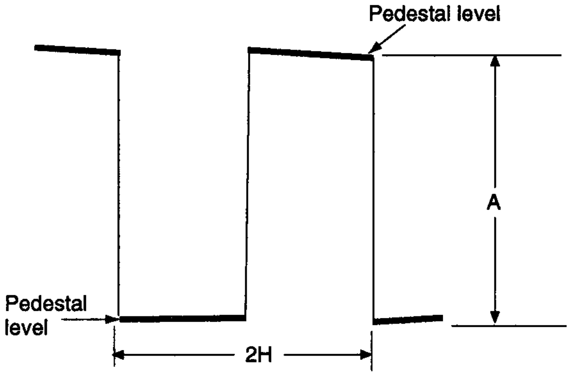
Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	Set the data. (Preparation)
2				Check the GND level on an oscilloscope in DC mode.
3	F	D2		Change the data until the PCO voltage (A) becomes the specification value.
4				Press the PAUSE button.
5	6	00	00	Set the data. (End)

19-4. BRIGHT adjustment (VF-110 board)

Purpose : Adjust brightness of EVF screen (appearance)
Adjustment error : The EVF picture will be close to saturated picture (white washing) or black compression.

Mode	Playback
Signal	Signal
Measurement Point	CN702 pin ③ (G OUT) on VF-110 board
Measuring Equipment	Oscilloscope
Adjustment Page	F
Adjustment Address	CC
Specification	A=7.0 ± 0.1Vp-p



Connection
1) Connect CN702 pin ③ and pin ② (EVF GND) using a 3300 resistor (1-249-423-11).

Adjustment Procedure:

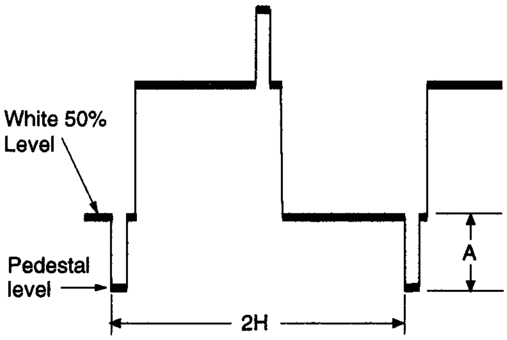
Order	Page	Address	Data	Procedure
1	6	00	01	Set the data. (Preparation)
2	F	CC		Change the data until the voltage difference (A) between the inverted waveform's pedestal and the non-inverted waveform's pedestal satisfies the specification.
3				Press the PAUSE button.
4	6	00	00	Set the data. (End)

Related adjustment items
[White Balance Adjustment]

19-5. CONTRAST adjustment (VF-110 board)

Purpose : Adjust contrast of the EVF screen.
Adjustment error : The EVF picture becomes dull (white washing) or close to saturated image.

Mode	Playback
Signal	Signal
Measurement Point	CN702 pin ③ (G OUT) on VF-110 board
Measuring Equipment	Oscilloscope
Adjustment Page	F
Adjustment Address	D1
Specification	A=2.0 ± 0.1Vp-p (NTSC) A=2.0 ± 0.1Vp-p (PAL)



Connection
1) Connect CN702 pin ③ and pin ② (EVF GND) using a 3300 resistor (1-249-423-11).

Adjustment Procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	Set the data. (Preparation)
2	F	4B		Change the data until the voltage difference (A) between the 50% all white signal and the pedestal satisfies the specification.
3				Press the PAUSE button.
4	6	00	00	Set the data. (End)

19-6. Back light Current consumption adjustment (VF-109 board)

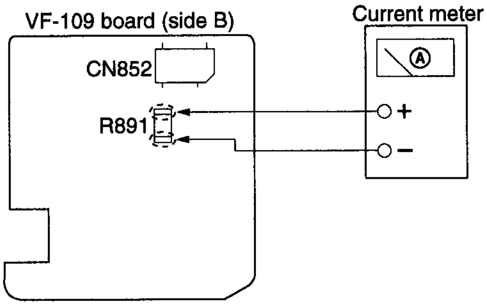
Purpose : Set brightness of the back light (fluorescent lamp) to a constant level.

Adjustment error : The EVF screen will become too dark or too bright.

Mode	Playback
Signal	No signal
Measurement Point	The pattern land from which R891 is removed
Measuring Equipment	Current meter
Adjustment Page	F
Adjustment Address	D3
Specification	45 ± 2mA

Note 1 : Perform this adjustment after 30 seconds of warm up after the power is turned ON.

Note 2 : Remove R891 before adjustment, and return R891 after adjustment.



Note : Connect ammeter to thee lands where R891 is removed.

Fig. 6-1-14

Adjustment Procedure:

Order	Page	Address	Data	Procedure
1				Remove R891 from the VF-109 board. Connect an ammeter to the pattern lands from which R891 is removed.
2	6	00	01	Set the data. (Preparation)
3	F	D3		Adjust the current value to the specification.
4				Press the PAUSE button.
5	6	00	00	Set the data. (End)
6				Reconnect R891.

19-7. White balance adjustment

Purpose : Calibrate the white balance.

Adjustment error : The color reproduction of the EVF screen becomes poor.

Mode	Playback
Signal	Any signal
Measurement Point	Check white balance on the EVF screen.
Measuring Equipment	
Adjustment Page	F
Adjustment Address	CF, D0
Specification	The EVF screen must not have any colors.

Adjustment Procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	F	CF	7A	After setting the data, press the PAUSE button.
3	F	D0	6A	After setting the data, press the PAUSE button.
4				Confirm that the EVF screen has not color at all.
5	F	CF, D0		If the EVF screen has any colors, change the data until the EVF screen has any colors.
6				Press the PAUSE button.
7	6	00	00	After setting the data, press the PAUSE button. (End)

20. LCD system adjustments

Note 1 : The backlight (fluorescent lamp) is driven by high voltage AC power supply.
Therefore, be careful not to touch the back light holder with hand or you will receive an electric shock.

Note 2 : When replacing the LCD unit, be careful not to damage the LCD unit with static electricity.

Note 3 :

	LCD size	LCD board
Type 1	2.5 inch (PAL only)	PD-74/SD-24
Type 2		PD-75/SD-25
Type 3	3.0 inch (NTSC)	PD-77
Type 4	3.5 inch (NTSC/PAL)	PD-76

Note 4 : No mark : Type 1, Type 4
⟨ ⟩ : Type 2, Type 3

[Adjustment connector]

Most measurement points of the LCD adjustment are concentrated at the CN804 ⟨CN1804⟩ of the PD-74/76 ⟨PD-75/77⟩ board. Connect the measuring equipment to CN301 via the measuring pin tool. The following table shows the pin numbers and signal names of CN804 ⟨CN1804⟩.

Pin No.	Signal Name	Pin No.	Signal Name
1	VR	2	VG
3	VB	4	HDB ⟨HSY⟩
5	GND	6	SRT
7	SYNC	8	N.C. ⟨COM-O⟩
9	N.C.		

1. Multi CPC Parts code:J-6082-311-A
2. Aligment tape
   WR5-4NL (8-967-995-51) : NTSC
   WR5-4CL (8-967-995-56) : PAL

[Video input signal for adjustment]

Playback an alignment tape. Use the color bar signal of the alignment tape playback as the input signal to this machine. Then check that the white (100 %) signal amplitude at CN801 ⟨CN1801⟩ pin ⑨ on the SD-24 ⟨25⟩, PD-76 ⟨77⟩ board is 1.00Vp-p. If the signal column specifies the "Color bar signal with the chroma and burst signals turned OFF", remove the capacitor C814 ⟨C1813⟩ on the SD-24 ⟨25⟩, C814 ⟨C1804⟩ on the PD-76 ⟨77⟩ board. Return C814 ⟨C1814⟩ and IC801 ⟨IC1801⟩ pin ⑤ to the original connections upon completion of adjustment.

[When SD-24 ⟨25⟩ board is used](2.5inch LCD)

- Remove the capacitor C814 ⟨C1813⟩ on the SD-24 ⟨25⟩ board in order to turn OFF the chroma and burst signals of the color bar signal.

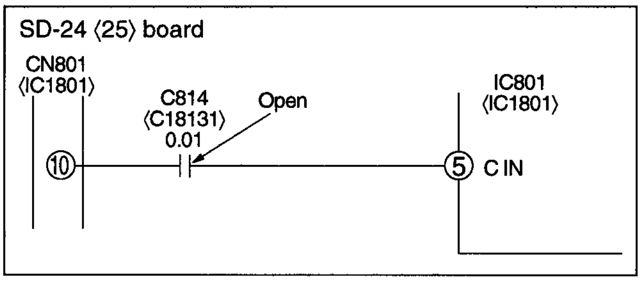

SD-24 ⟨25⟩ board
CN801
⟨IC1801⟩
C814
⟨C18131⟩
0.01
Open
IC801
⟨IC1801⟩
⑩
⑤
C IN

Fig. 6-1-15 (a)

[When PD-76 ⟨77⟩ board is used](3/3.5inch LCD)

- Remove the capacitor C814 ⟨C1804⟩ on the PD-67 ⟨77⟩ board in order to turn OFF the chroma and burst signals of the color bar signal.

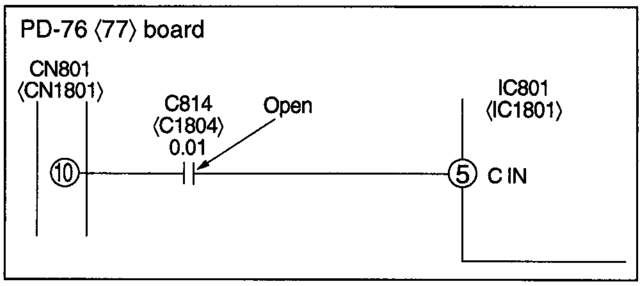

PD-76 ⟨77⟩ board
CN801
⟨CN1801⟩
C814
⟨C1804⟩
0.01
Open
IC801
⟨IC1801⟩
⑩
⑤
C IN

Fig. 6-1-15 (b)

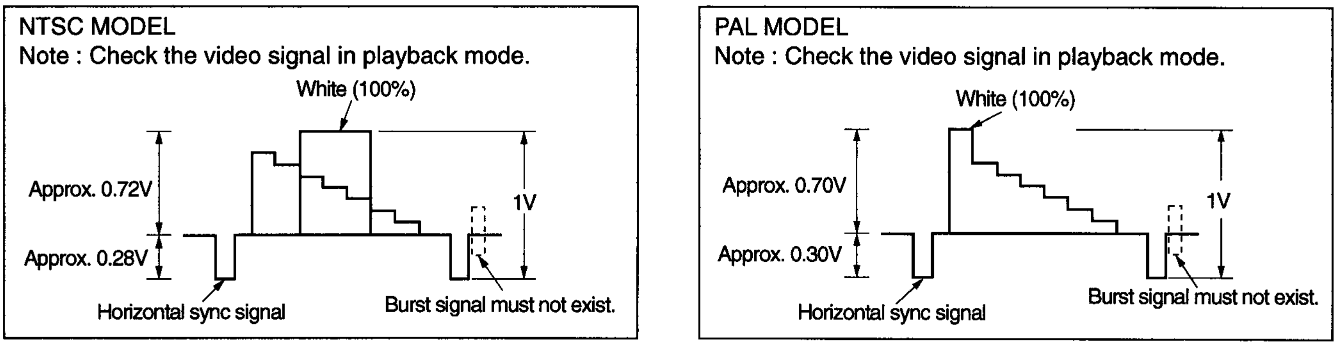

NTSC MODEL
Note : Check the video signal in playback mode.
White (100%)
Approx. 0.72V
Approx. 0.28V
1V
Horizontal sync signal
Burst signal must not exist.
PAL MODEL
Note : Check the video signal in playback mode.
White (100%)
Approx. 0.70V
Approx. 0.30V
1V
Horizontal sync signal
Burst signal must not exist.

Fig. 6-1-16 Color bar signal with chroma and burst signals switched OFF.

[Power supply voltage adjustment]

Adjust the power supply voltage to be input to the battery terminal so that the voltage across PD-74⟨75⟩76⟨77⟩ board CN802 ⟨CN1802⟩ pins ③ (LCD UNREG) and pins ④ or ⑤ (UNREG GND) is 6.5 ± 0.1Vdc.

Power supply voltage check

Subject	Any subject
Measuring equipment	Digital voltmeter
D 3.1V check	
Measurement point	CN801 ⟨CN1801⟩ Pin ⑦ (SD-24⟨25⟩, PD-76⟨77⟩)
Specification	3.1 ± 0.1Vdc (GND : CN801 ⟨CN1801⟩ Pin ⑧)
PANEL 4.9V check	
Measurement point	CN802 ⟨CN1802⟩ Pin ⑥ (PD-74⟨75⟩76⟨77⟩)
Specification	4.65 ± 0.05Vdc (GND : CN802 ⟨CN1802⟩ Pin ⑦)

	LCD size	LCD board
Type 1	2.5 inch (PAL only)	PD-74/SD-24
Type 2		PD-75/SD-25
Type 3	3.0 inch (NTSC)	PD-77
Type 4	3.5 inch (NTSC/PAL)	PD-76

No mark : Type 1, Type 4
⟨ ⟩ : Type 2, Type 3

20-1. EVR initial data input

Mode	Stop
Signal	Any signal
Adjustment page	F

Note : Do not rewrite the EE PROM data except when it is necessary such as replacement of SD-24⟨25⟩, PD-76⟨77⟩ board IC802 ⟨IC1802⟩.

Modidication procedure:

Order	Page	Address	Data					Procedure
			TYPE1	TYPE2	TYPE3	TYPE4		
			PAL	PAL	NTSC	NTSC	PAL	
1	6	00	01					After setting the data, press the PAUSE button. (Preparation)
2	F	D8	99	5A	80	8C	91	Set each data to each address, and press the PAUSE button.
		D9	60	5F	71	C5	67	
		DA	85	5D	65	6A	7D	
		DB	7F	70	66	77	79	
		DC	75	5F	60	6E	6C	
		DD	A9	95	94	89	8C	
		DE	A8	90	84	9B	79	
		DF	88	30	36	AF	A4	
		A0	(80)	65	64	(80)	(80)	
		A1	(80)	7B	71	(7F)	(7F)	
		A2	(FF)	(FF)	(FF)	(FF)	(FF)	
		A3	(02)	(04)	(05)	(07)	(08)	
3	6	00	00					After setting the data, press the PAUSE button. (End)

Values in parenthis ( ) are fixed values.

20-2. VCO adjustment

Purpose : Sets the VCO free-run frequency.
Adjustment Error : Incorrect picture on EVF

Mode	Stop
Signal	No signal
Measurement point	CN804 pin ④ (HDB) (Type 1, 4) CN1804 pin ④ (HSY) (Type 2, 3)
Measuring equipment	Frequency counter
Adjustment page	F
Adjustment address	DE
Specification	f=15625 ± 30Hz (PAL) (Type 1, 2, 4) f=15734 ± 30Hz (NTSC) (Type 3, 4)

	LCD size	LCD board
Type 1	2.5 inch (PAL only)	PD-74/SD-24
Type 2		PD-75/SD-25
Type 3	3.0 inch (NTSC)	PD-77
Type 4	3.5 inch (NTSC/PAL)	PD-76

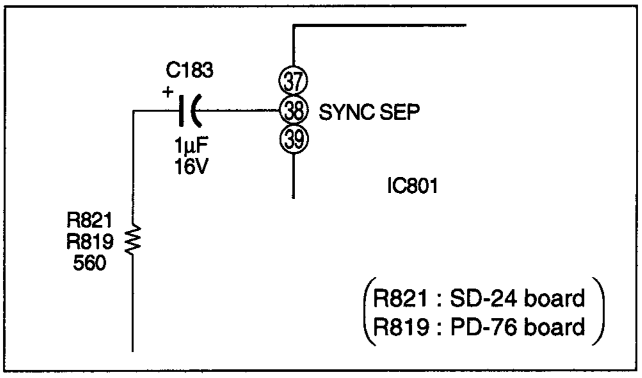
No mark : Type 1, Type 4
〈　　〉: Type 2, Type 3

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Remove C183/C1804 (1μF capacitor) (Note)
2				Press the DATA SCREEN button of the remote commander to disappear the display.
3	6	00	01	After setting the data, press the PAUSE button. (Preparation)
4	F	DE		Change data using the PLAY and STOP buttons until the oscillating frequency satisfies the specification.
5				Press the PAUSE button.
6	6	00	00	After setting the data, press the PAUSE button. (End)
7				Connect C183/C1804 (1μF capacitor) (Note)

Note :

TYPE 1, 4 (PD-76/SD-24 board)



TYPE 2, 3 (PD-77/SD-25 board)

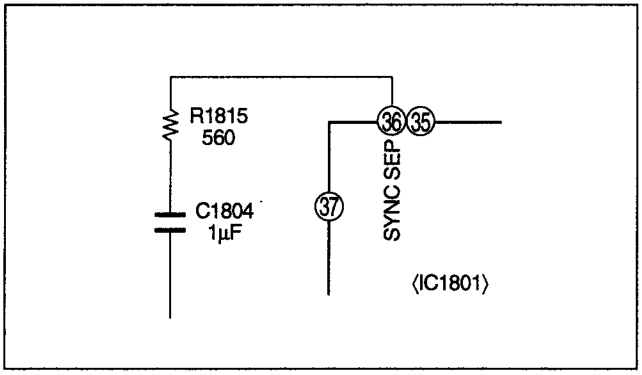


Fig. 6-1-17

20-3. BRIGHT adjustment

Purpose : Adjusts video signal level to drive the LCD panel.

Adjustment Error : Picture on LCD will be white saturated or black compressed.

Mode	Playback
Signal	Color bar signal with the chroma and burst signals turned OFF.
Measurement point	CN804 ⟨CN1804⟩ pin ② (VG)
Measuring equipment	Oscilloscope [External trigger : CN804 ⟨CN1804⟩ pin ⑪ (HDB)]
Adjustment page	F
Adjustment address	D8
Specification	Type 1 : A=1.50 ± 0.05Vp-p Type 2 : A=0.50 ± 0.05Vp-p Type 3 : A=0.47 ± 0.05Vp-p Type 4 : A=2.44 ± 0.05Vp-p

	LCD size	LCD board
Type 1	2.5 inch (PAL only)	PD-74/SD-24
Type 2		PD-75/SD-25
Type 3	3.0 inch (NTSC)	PD-77
Type 4	3.5 inch (NTSC/PAL)	PD-76

No mark : Type 1, Type 4
⟨ ⟩ : Type 2, Type 3

Note 1 : **Adjustment procedure of TYPEs 2 and 3 machines are as follows :**
D.RANGE (item 20-5) →
BRIGHT (item 20-3) →
CONTRAST (item 20-4)

Note 2 : The adjustment points of the TYPEs 2 and 3 machines are as follows :

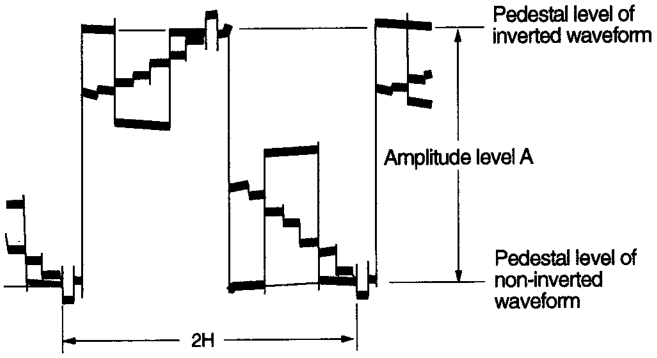
Note 3 : This adjustment must be performed together with the CONTRAST adjustment as the pair adjustment. (Re-adjust them when they are out of specifications.)

Adjustment procedure:

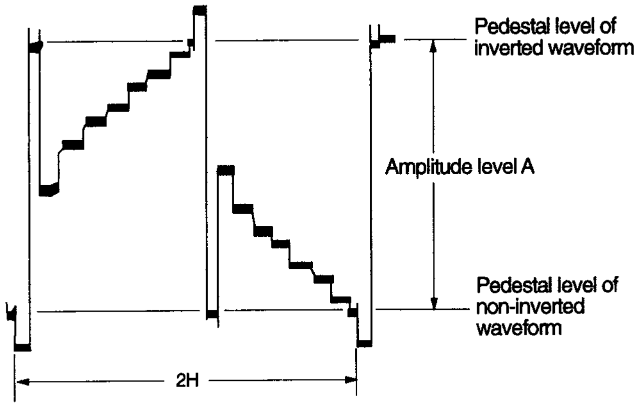
Order	Page	Address	Data	Procedure
1		6	00	01 After setting the data, press the PAUSE button. (Preparation)
2	F	D8		Change data using the PLAY and STOP buttons until the VG signal amplitude (A) has the specification value.
3				Press the PAUSE button.
4	6	00	00	After setting the data, press the PAUSE button. (End)

Related Adjustment:
CONTRAST adjustment

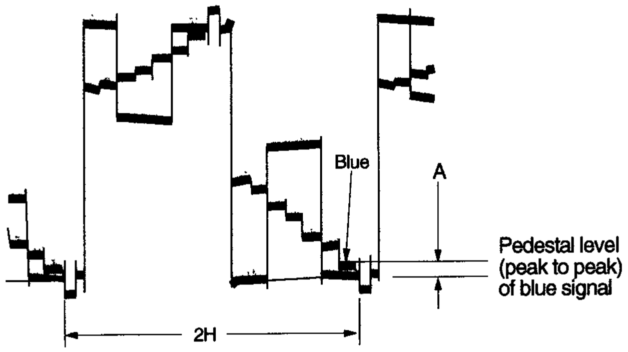
NTSC MODEL (TYPE 4 only)


Pedestal level of inverted waveform
Amplitude level A
Pedestal level of non-inverted waveform
2H

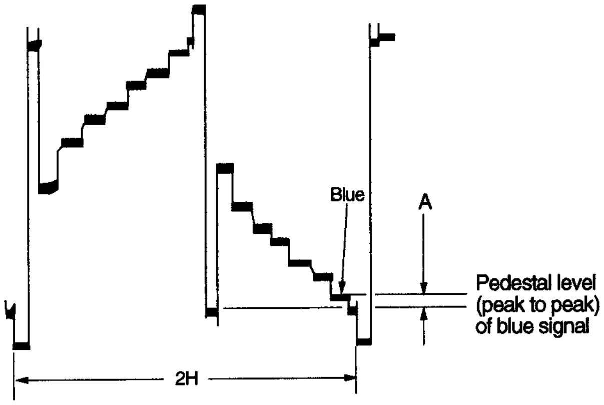
PAL MODEL (TYPE 1, 4)


Pedestal level of inverted waveform
Amplitude level A
Pedestal level of non-inverted waveform
2H

NTSC MODEL (TYPE 3 only)


Blue
A
Pedestal level (peak to peak) of blue signal
2H

PAL MODEL (TYPE 2 only)


Blue
A
Pedestal level (peak to peak) of blue signal
2H

20-4. CONTRAST adjustment

Purpose : Adjusts contrast of LCD picture
Adjustment Error : Details of black will be lost, or white saturated/black compressed picture.

Mode	Playback
Signal	Color bar signal with chroma and burst signals turned OFF.
Measurement point	CN804 ⟨CN1804⟩ pin ② (VG)
Measuring equipment	Oscilloscope [External trigger : CN804 ⟨CN1804⟩ pin ④ (HDB) ⟨HSY⟩]
Adjustment page	F
Adjustment address	DD
Specification	Type 1 : A=2.00 ± 0.05Vp-p (PAL) Type 2 : A=3.30 ± 0.05Vp-p (PAL) Type 3 : A=3.45 ± 0.05Vp-p (NTSC) Type 4 : A=2.87 ± 0.05Vp-p (NTSC/PAL)

	LCD size	LCD board
Type 1	2.5 inch (PAL only)	PD-74/SD-24
Type 2		PD-75/SD-25
Type 3	3.0 inch (NTSC)	PD-77
Type 4	3.5 inch (NTSC/PAL)	PD-76

No mark : Type 1, Type 4
⟨ ⟩ : Type 2, Type 3

Note 1 : Set the BRIGHT control volume to their mechanical center during adjustment.
(Center is the 17 clicks from the BRI MIN.)

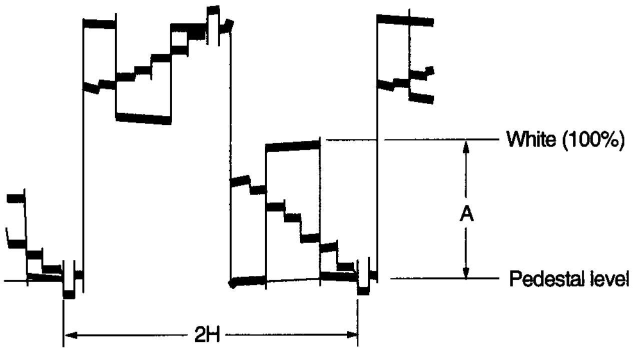
Note 2 : This adjustment must be performed together with the BRIGHT adjustment as the pair adjustment.
(Re-adjust them when they are out of specifications.)

Adjustment procedure:

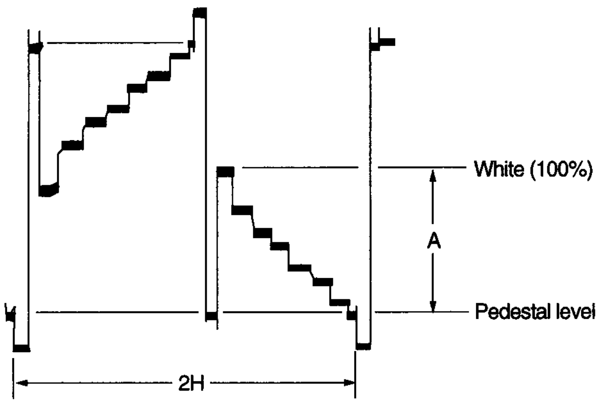
Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	F	DD		Change data using the PLAY and STOP buttons until the amplitude (A) has the specification value.
3				Press the PAUSE button.
4	6	00	00	After setting the data, press the PAUSE button. (End)

Related Adjustment:
BRIGHT adjustment

NTSC MODEL



PAL MODEL



20-5. D RANGE adjustment (Type 2, 3 MODEL)

Purpose : Adjust to the proper LCD panel driving dynamic range.

Adjustment Error : Image will be saturated (whitish) or blackish.

Mode	Playback
Signal	Color bar signal with chroma and burst signals turned OFF.
Measuremant Point	⟨CN1804⟩ pin ② (VG)
Measuring Instrument	Oscilloscope External trigger : ⟨CN1804⟩ pin ④ (HSY)
Adjustment Page	F
Adjustment Address	E0
Specfied Value	Type 2 : A=3.60 ± 0.05Vp-p (PAL) Type 3 : A=3.65 ± 0.05Vp-p (NTSC)

	LCD size	LCD board
Type 1	2.5 inch (PAL only)	PD-74/SD-24
Type 2		PD-75/SD-25
Type 3	3.0 inch (NTSC)	PD-77
Type 4	3.5 inch (NTSC/PAL)	PD-76

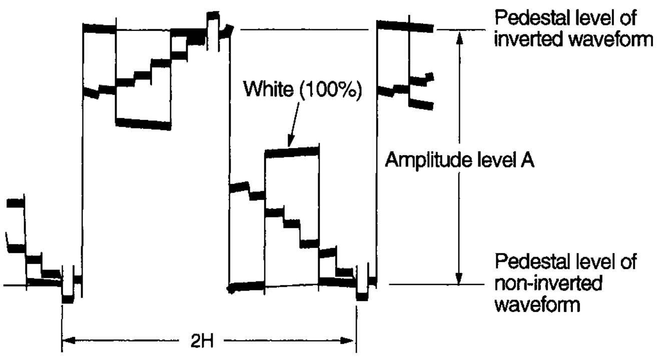
No mark : Type 1, Type 4
( ) : Type 2, Type 3

Note 1 : Set the BRIGHT control volume to their mechanical center during adjustment.

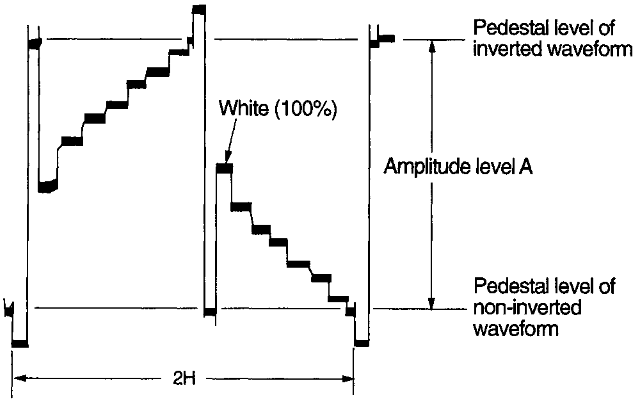
Adjustment procedure :

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	F	E0		Change the data of page : F address : E0, and adjust the amplitude level (A) of the VG signal to the specified value. Amplitude : Level difference between the reverse waveform pedestal and non-reversed waveform pedestal.
3				Press the PAUSE button.
4	6	00	00	After setting the data, press the PAUSE button. (End)

NTSC MODEL


Pedestal level of inverted waveform
White (100%)
Amplitude level A
Pedestal level of non-inverted waveform
2H

PAL MODEL


Pedestal level of inverted waveform
White (100%)
Amplitude level A
Pedestal level of non-inverted waveform
2H

21-6. V-COM level adjustment (Type 2, 3 MODEL)

Purpose : Set to contrast of the image.
Adjustment Error : Image will be blue (whitish) or saturated.

Mode	STOP or Playback
Signal	Color bar signal with chroma and burst signals turned OFF
Measurement point	⟨CN1804⟩ pin ⑧ (COM-O)
Measuring equipment	Oscilloscope
Adjustment page	F
Adjustment address	E1
Specification	Type 2 : A=6.60 ± 0.05Vp-p Type 3 : A=6.85 ± 0.05Vp-p

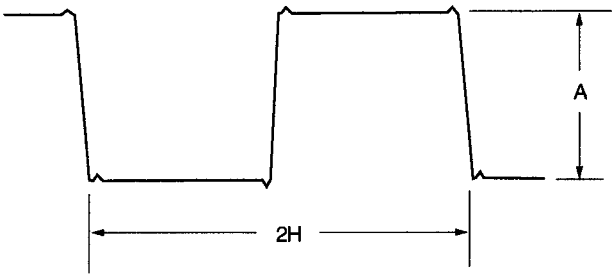
	LCD size	LCD board
Type 1	2.5 inch (PAL only)	PD-74/SD-24
Type 2		PD-75/SD-25
Type 3	3.0 inch (NTSC)	PD-77
Type 4	3.5 inch (NTSC/PAL)	PD-76

No mark : Type 1, Type 4
⟨ ⟩ : Type 2, Type 3

Note 1 : Set the BRIGHT control volume to their mechanical center during adjustment.

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	F	E1		Change the data of page : F, address : E1, and adjust the V-COM level (A) to the specified value.
3				Press the PAUSE button.
4	6	00	00	After setting the data, press the PAUSE button. (End)



20-7. COLOR adjustment

Purpose : Adjusts color for standard level.
Adjustment Error : Color will be too much or too small.

Mode	Playback
Signal	Color bar signal (with chroma and burst signals)
Measurement point	CN804 ⟨CN1804⟩ pin ② (VG)
Measuring equipment	Oscilloscope [External trigger : CN804 ⟨CN1804⟩ pin ④ (HDB) ⟨HSY⟩]
Adjustment page	F
Adjustment address	D9
Specification	Type 1 : A=–0.20 ± 0.05Vp-p (PAL) Type 2 : A=–0.25 ± 0.05Vp-p (PAL) Type 3 : A=+0.12 ± 0.05Vp-p (NTSC) Type 4 : A=+0.12 ± 0.05Vp-p (NTSC) Type 4 : A=–0.20 ± 0.05Vp-p (PAL) • Green levelwith reference to white 100% (PAL) • Green levelwith reference to white 75% (NTSC)

	LCD size	LCD board
Type 1	2.5 inch (PAL only)	PD-74/SD-24
Type 2		PD-75/SD-25
Type 3	3.0 inch (NTSC)	PD-77
Type 4	3.5 inch (NTSC/PAL)	PD-76

No mark : Type 1, Type 4
⟨ ⟩ : Type 2, Type 3

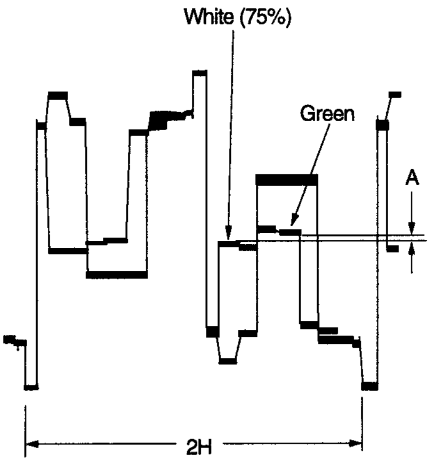
Note 1 : In the PAL models, perform the BURST CLEAN adjustment first.
Note 2 : Set the BRIGHT control volume to their mechanical center during adjustment.

Adjustment procedure:

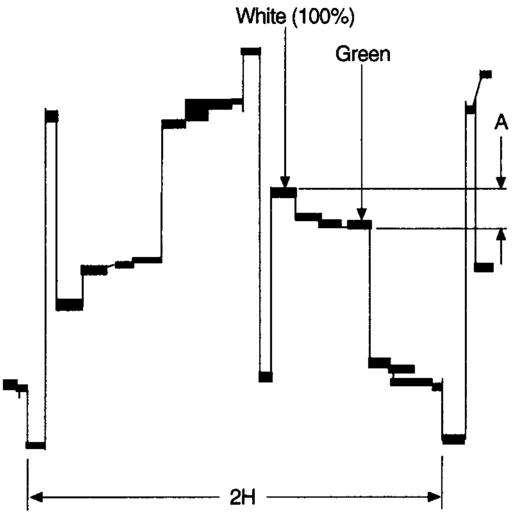
Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	F	D9		Change data using the PLAY and STOP buttons until the amplitude (A) has the specified value.
3				Press the PAUSE button.
4	6	00	00	After setting the data, press the PAUSE button. (End)

Note : To adjust the type 3, 4 machine, increase the data of page : F, address : DD by 10h before starting adjustment.
To adjust the type 2 machine, decrease the data of page : F, address : D8 by 12h before starting adjustment.
After adjustment is completed, return the data to the original value. (Remove the effect of gamma.)

NTSC MODEL



PAL MODEL

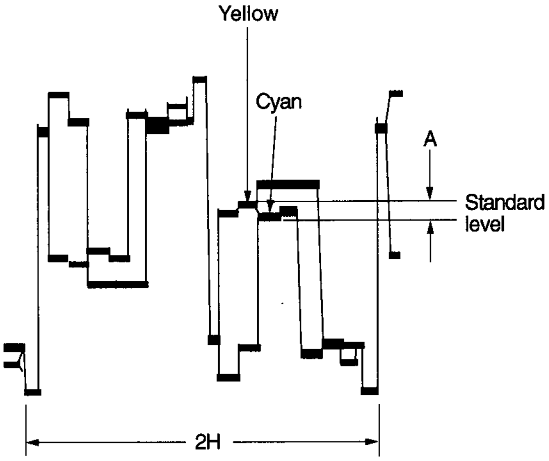


20-8. HUE adjustment (NTSC MODEL)

Purpose : Adjust for standard hue.
Adjustment Error : Unnatural hue.

Mode	Playback
Signal	Color bar signal (with chroma and burst signals)
Measurement point	CN804 ⟨CN1804⟩ pin ② (VG)
Measuring equipment	Oscilloscope [External trigger : CN804 ⟨CN1804⟩ pin ④ (HDB) ⟨HSY⟩]
Adjustment page	F
Adjustment address	DA
Specification	Type 3 : A=0.08 ± 0.05Vp-p Type 4 : A=0.13 ± 0.05Vp-p Cyan level with reference to yellow

Note 1 : Set the BRIGHT control volume to their mechanical center during adjustment.



Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	F	DA		Change data using the PLAY and STOP buttons until the amplitude (A) has the specified value.
3				Press the PAUSE button.
4	6	00	00	After setting the data, press the PAUSE button. (End)

Note : To adjust the type 3, 4 machine, increase the data of page : F, address : DD by 10h before starting adjustment. After adjustment is completed, return the data to the original value. (Remove the effect of gamma.)

	LCD size	LCD board
Type 1	2.5 inch (PAL only)	PD-74/SD-24
Type 2		PD-75/SD-25
Type 3	3.0 inch (NTSC)	PD-77
Type 4	3.5 inch (NTSC/PAL)	PD-76

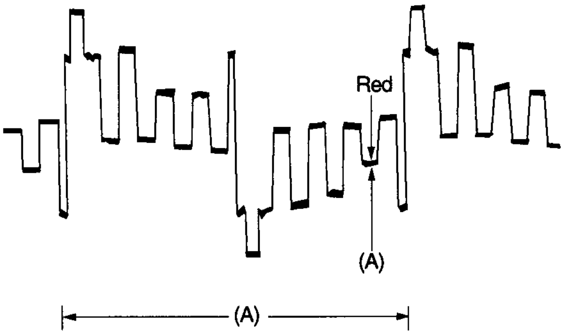
No mark : Type 1, Type 4
⟨ ⟩ : Type 2, Type 3

20-9. BURST CLEANING adjustment (PAL MODEL)

Purpose : Adjust for standard hue.
Adjustment Error : Unnatural hue.

Mode	Playback
Signal	Color bar signal (with chroma and burst signals)
Measurement point	CN804 ⟨CN1804⟩ pin ③ (VB)
Measuring equipment	Oscilloscope [External trigger : CN804 ⟨CN1804⟩ pin ④ (HDB) ⟨HSY⟩]
Adjustment page	F
Adjustment address	DA
Specification	Minimum amplitude of the flicker of the red position.

Note 1 : Perform this adjustment before COLOR adjustment.
Note 2 : Set the BRIGHT control volume to their mechanical center during adjustment.



Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	F	DA		Change data using the PLAY and STOP buttons until the amplitude (A) has the specified value.
3				Press the PAUSE button.
4	6	00	00	After setting the data, press the PAUSE button. (End)

20-10. V. COM adjustment

Purpose : Adjusts for correct voltage of the DC bias voltage of the common electrode signal of the LCD panel.

Adjustment Error : Details of the LCD picture will be lost. Flicker occurs easily. Vertical stripes will appear.

Mode	Playback PAUSE
Signal	Alignment tape: color bar for operation check segment WR5-4CL (PAL) WR5-4NL (NTSC)
Measurement point	To be confirmed on LCD display
Measuring equipment	
Adjustment page	F
Adjustment address	DF

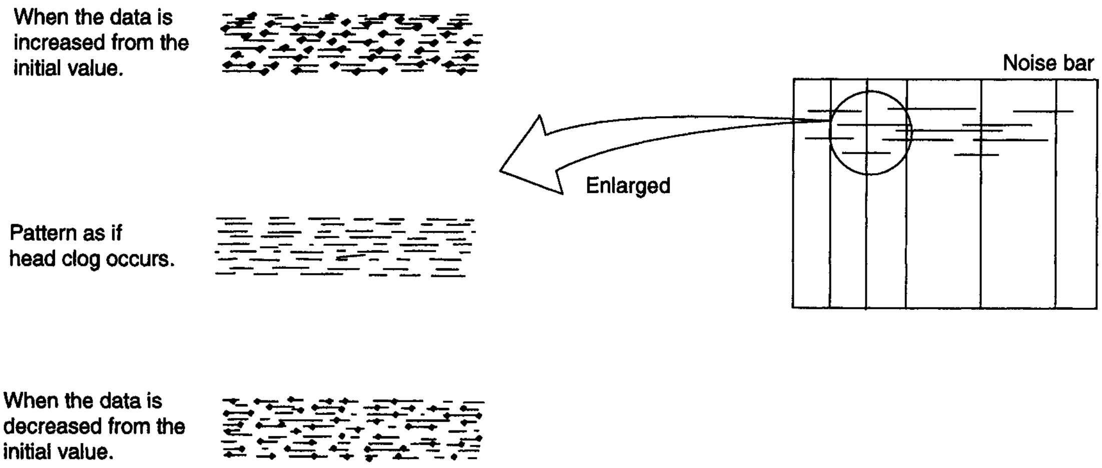
	LCD size	LCD board
Type 1	2.5 inch (PAL only)	PD-74/SD-24
Type 2		PD-75/SD-25
Type 3	3.0 inch (NTSC)	PD-77
Type 4	3.5 inch (NTSC/PAL)	PD-76

No mark : Type 1, Type 4
〈 〉: Type 2, Type 3

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2				Establish the PB PAUSE state using operation keys of the camera.
3	F	DF		Change data using the PLAY and STOP buttons of the adjustment remote commander and observe the noise bar portion. Find the noise bar showing noise similar to head clogging. Keep pressing the PLAY button until black dots can be seen clearly. This data is DA. Then keep pressing the STOP button until black dots can be seen clearly. This data is DB.
4				Convert the DA and DB to the decimal value which are DA' and DB'. (Use page 6-13 〈How to convert the hexadecimal number to decimal number〉 or "Hexadecimal-Decimal Conversion Table".) Then calculate DC' using the equation DC'= (DA' + DB') ÷ 2
5	F	DF		Set data to DC and press the PAUSE button.
6	6	00	00	After setting the data, press the PAUSE button. (End)

Note : This adjustment must be executed after the BRIGHT and CONTRAST adjustments are completed.


When the data is increased from the initial value.
Noise bar
Enlarged
Pattern as if head clog occurs.
When the data is decreased from the initial value.

20-11. White balance adjustment

Purpose : Adjust for correct white balance.
Adjustment Error : Color reproduction on LCD display will be poor.

Mode	Playback
Signal	Color bar signal with chroma and burst signals turned OFF
Measurement point	To be confirmed on LCD display
Measuring equipment	
Adjustment page	F
Adjustment address	DB, DC
Specification	Image on the LCD display must not have any color.

	LCD size	LCD board
Type 1	2.5 inch (PAL only)	PD-74/SD-24
Type 2		PD-75/SD-25
Type 3	3.0 inch (NTSC)	PD-77
Type 4	3.5 inch (NTSC/PAL)	PD-76

No mark : Type 1, Type 4
〈 〉: Type 2, Type 3

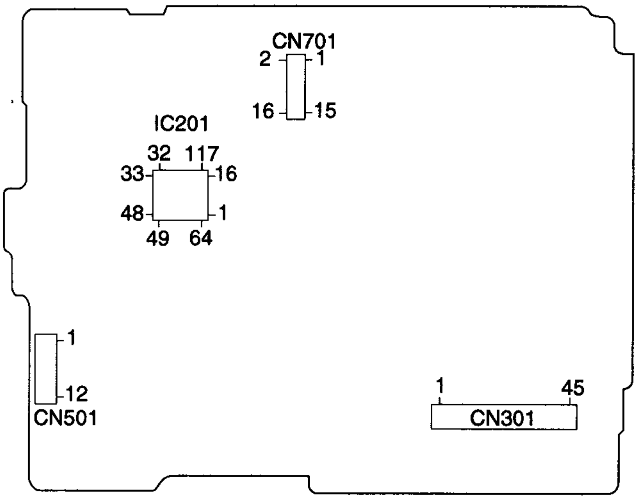
Note 1 : Start adjustment within 30±5 seconds after the back-light turns ON.
Note 2 : Confirm that the item “LCD B.L” is set to “BRIGHT” using menu.
Note 3 : Set the BRIGHT control volume to their mechanical center during adjustment.

Adjustment procedure:

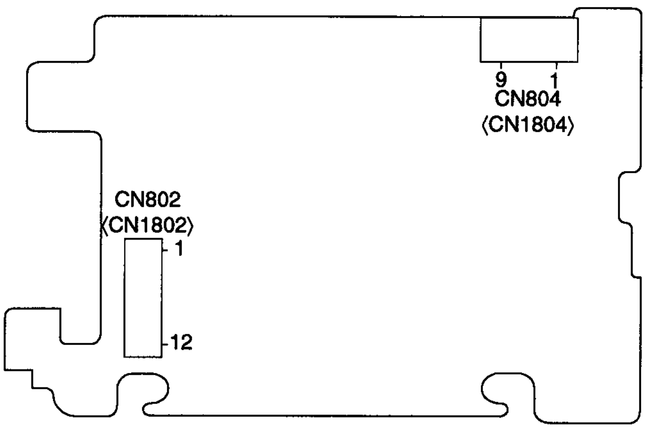
Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	F	DB DC		Change the DB and DC data using the PLAY and STOP buttons until the image on the LCD display has no color.
3				Press the PAUSE button.
4	6	00	00	After setting the data, press the PAUSE button. (End)

ARRANGEMENT DIAGRAM FOR ADJUSTMENT PARTS

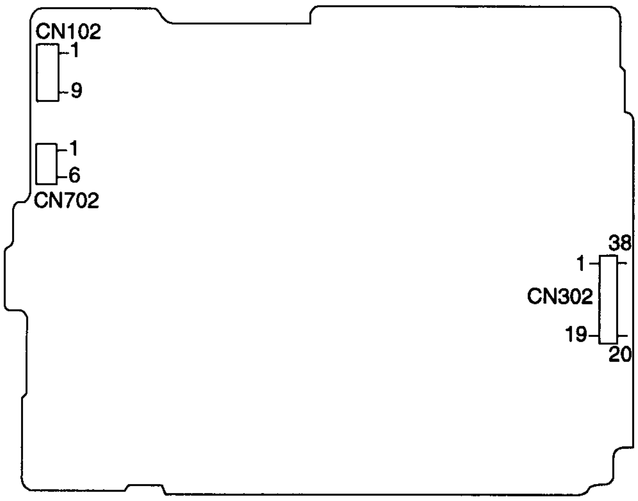
VC-188 BOARD (SIDE A)


CN701
2
1
16
15
IC201
32
117
33
16
48
1
49
64
1
12
CN501
1
45
CN301

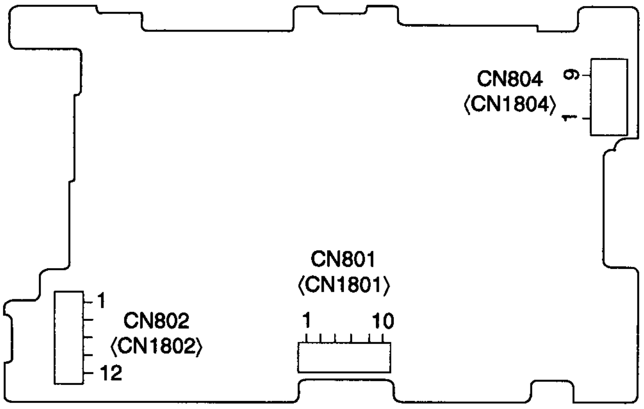
PD-74 ⟨PD-75⟩ BOARD (SIDE A)


9
1
CN804
⟨CN1804⟩
CN802
⟨CN1802⟩
1
12

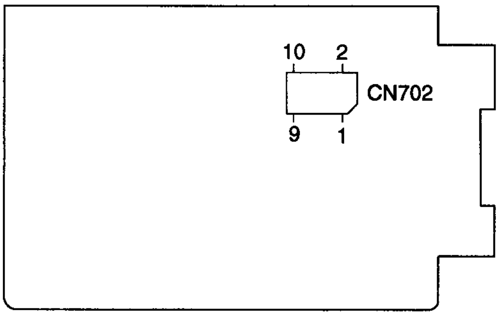
VC-188 BOARD (SIDE B)


CN102
1
9
1
6
CN702
38
1
CN302
19
20

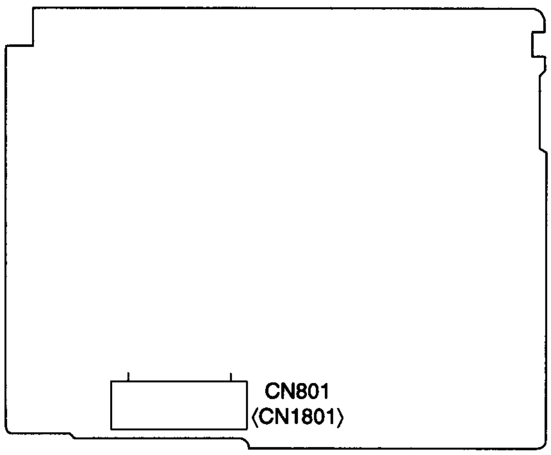
PD-76 ⟨PD-77⟩ BOARD (SIDE A)


CN804
⟨CN1804⟩
9
1
CN801
⟨CN1801⟩
1
10
1
CN802
⟨CN1802⟩
12

VF-110 BOARD (SIDE A)


10
2
CN702
9
1

SD-24 ⟨SD-25⟩ BOARD (SIDE A)


CN801
⟨CN1801⟩

6-2. MECHANISM SECTION ADJUSTMENTS

Refer to the separate “8 mm Video Mechanism Section Adjustment Manual Ⅶ B Mechanism ” for adjustment, check procedure and mechanical parts replacement.

2-1. HOW TO OPERATE THE MECHANISM AFTER THE CASSETTE COMPARTMENT IS REMOVED

1. How to load a cassette tape:

1) Refer to “1. Disassembly” and turn the main power on with the cabinet and camera section removed. (It enables to operate the mechanical deck.)
2) Connect the adjustment remote commander and set the NORM -ADJUST (HOLD) switch to ADJUST (ON) position.
3) Check that the main power is being supplied.
4) Select page : 6, address: 00, set data : 01 and press the PAUSE button.
5) Select page : F, address: 02, set data : 01 and press the PAUSE button.
6) Turn off the power supply once, then turn it on.
7) Set the NORM-ADJUST (HOLD) switch to NORM (OFF) position. (The adjustment remote commander can be disconnected hereafter.)
8) Press the push-switch-1 knob in the direction of arrow which sets the machine into loading mode.
   PB, FF/REW and CUE/REV operations are possible.
9) After completing all steps of above operation, be sure to perform “4. Processing after operation”.

2. How to establish RECORD mode:

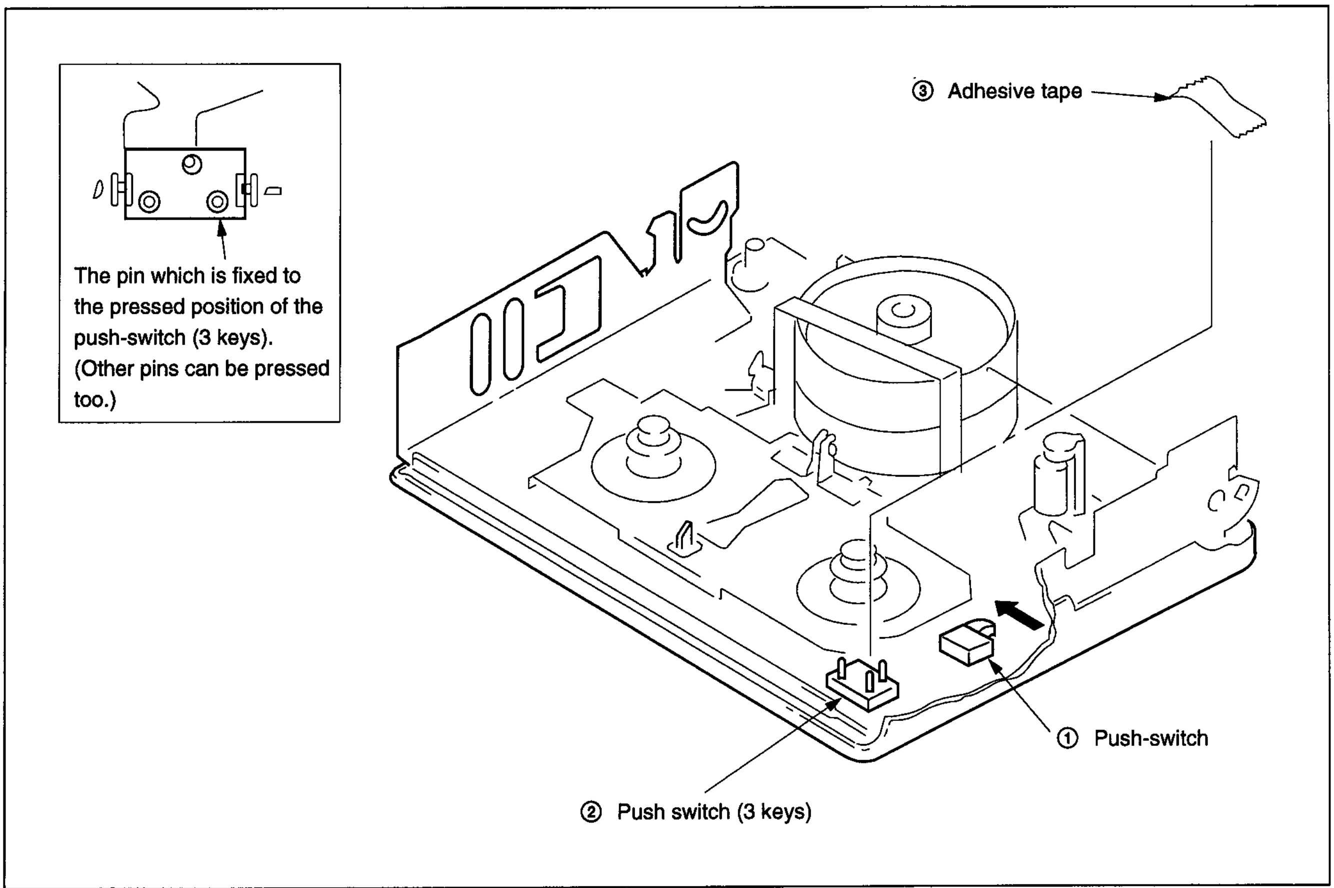
1) Press pin of the push-switch 2 (ON state) and keep the ON state by fixing with adhesive tape.
2) Turn the main power switch ON (select VTR or CAMERA position of camera).
3) Set the RECORD switch to ON.
   (When the test mode is selected, the rotation detection of the S and T reel tables is muted, and the top end sensor is disable which allow to run the tape.)

3. How to eject a cassette tape:

1) Press the EJECT switch to ON.

4. Processing after operation

1) Connect the adjustment remote commander and set the NORM - ADJUST (HOLD) switch to ADJUST (ON) position.
2) Select page 6, address : 00, set data : 01 and press the PAUSE button.
3) Select page: F, address : 02, set data : 00 and press the PAUSE button.
4) Remove the power supply to the machine.


The pin which is fixed to the pressed position of the push-switch (3 keys). (Other pins can be pressed too.)

⟨How to convert the decimal number to hexadecimal number⟩

The decimal numbers are divided into following three categories. Calculation method is different in three categories respectively.

(1) 0 ~ 255 → 00h ~ FFh
(2) 256 ~ 4095 → 0100h ~ 0FFFh
(3) 4096 ~ 65536 → 1000h ~ FFFFh

If the decimal number fall into the category (1);

1) Divide the decimal number by 16. Result is "A".
2) Take the integer portion of the number "A" as "B".
3) Calculate the equation (A–B) ×16. Result is "C".
4) "B" is the second digit number of the hexadecimal number and "C" is the first digit number of the hexadecimal number. (BC)h

(Example)

If the decimal number is "189";

1) $189 \div 16 = \underline{11}.8125$ ······ (A)
↑
2) (B)
3) $(11.8125-11) \times 16 = 13$ ······ (C)
4) 189 → (BD)h is obtained.

If the decimal number fall into the category (2);

1) Divide the decimal number by 256. Result is "A".
2) Take the integer portion of the number "A" as "B".
3) Calculate the equation (A-B) × 256. Result is "C".
4) Take the integer portion of the number "C" as "D".
5) Calculate the equation (C-D) ×16. Result is "E".
6) "B" is the third digit number, "D" is the second digit number and "E" is the first digit number of the hexadecimal number. (BDE)h

(Example)

If the decimal number is "2100";

1) $2100 \div 256 = \underline{8}.203125$ ······ (A)
↑
2) (B)
3) $(8.203125 - 8) \times 256 \div 16 = \underline{3}.25$ ······ (C)
↑
4) (D)
5) $(3.25-3) \times 16 = 4$ ······ (E)
6) 2100 → (834)h is obtained.

If the decimal number fall into the category (3);

1) Divide the decimal number by 4096. Result is "A".
2) Take the integer portion of the number "A" as "B".
3) Calculate the equation (A–B) × 4096 ÷ 256. Result is "C".
4) Take the integer portion of the number "C" as "D".
5) Calculate the equation (C–D) ×256÷16. Result is "E".
6) Take the integer portion of the number "E" as "F".
7) Calculate the equation (E–F) ×16. Result is "G". (Round the number "G" to count fractions of 0.5 and over as a unit and cut away the rest.)
8) "B" is the fourth digit number, "D" third digit number, "F" is the second digit number and "G" is the first digit number of the hexadecimal number. (BDFG)h

(Example)

If the decimal number is "31814";

1) $31814 \div 4096 = \underline{7}.7670898$ ······ (A)
↑
2) (B)
3) $(7.7670898 - 7) \times 4096 \div 256 = \underline{12}.273436$ ······ (C)
↑
4) (D)
5) $(12.273436 - 12) \times 256 \div 16 = \underline{4}.374976$ ······ (E)
↑
6) (F)
7) $(4.374976-4) \times 16 = 5.999616$
(Round the number to count fractions of 0.5 and over as a unit and cut away the rest.)
↓
8) 6 ······ (G)
9) 31814 → (7C46)h is obtained.

⟨How to convert the hexadecimal number to decimal number⟩

If the hexadecimal number is (ABCD)h, the decimal number is calculated by the following equation.

$(A\times4096) + (B\times256) + (C\times16) + (D\times1) =$ decimal number

(Example) If the hexadecimal number is "(3BA4)h":

$(3\times4096) + (11\times256) + (10\times16) + (4\times1)=15268$

7. HALL adjustment

Purpose : Variation of the HALL element outputs is removed by adjusting amplifier gain and offset. The HALL elements detect the lens iris position.

Adjustment error : Oscillation of lens iris, or incorrect white balance indoor and outdoor.

Subject	Not required
Measurement Point	DDS display on the EVF or monitor
Measuring Instrument	TV
Adjustment Page	F
Adjustment Address	40 41
Specification	13h to 17h when iris is opened. 79h to 7Dh when iris is closed.

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	F	02	21	After setting the data, press the PAUSE button.
3				Turn off the UNREG power supply once, then turn it on.
4	6	00	01	After setting the data, press the PAUSE button.
5	6	02	03	After setting the data, press the PAUSE button.
6	6	01	03	After setting the data, press the PAUSE button.
7	F	40	40	After setting the data, press the PAUSE button. Read the data appearing on the DDS display note. The read-out data is W_2.
8	F	40	30	After setting the data, press the PAUSE button. Read the data appearing on the DDS display note. The read-out data is W_1.
9	6	01	01	After setting the data, press the PAUSE button.
10	F	40	30	After setting the data, press the PAUSE button. Read the data appearing on the DDS display note. The read-out data is K_1.
11	F	40	40	After setting the data, press the PAUSE button. Read the data appearing on the DDS display note. The read-out data is K_2.
12				Convert the data W_1, W_2, K_1 and K_2 into the decimal numbers. The result decimal numbers are W_1', W_2', K_1' and K_2'. (Use page 6-13 ⟨How to convert the hexadecimal number to decimal number⟩ or "Hexadecimal-Decimal Conversion Table".) Calculate the following equation (decimal number calculation) to obtain X_1'.
13				$A' = W_2' + K_1' - W_1' - K_2'$ .... equation 1 $B' = W_1' - K_1'$ .... equation 2 $X_1' = \frac{1600 + (48 \times A') - (16 \times B')}{A'}$ .... equation 3
14				Convert the decimal number X_1' to the hexadecimal number to obtain X_1. (Round the number X_1 to count fractions of 0.5 and over as a unit and cut away the rest.)
15	F	40		Set the data X_1 (obtained at step 14).
16				Press the PAUSE button.
17	F	41		Change the data using the PLAY and STOP until 15h appears on the DDS display.
18				Press the PAUSE button.
19	6	01	03	After setting the data, press the PAUSE button.
20				If the DDS display shows the data in the range from 79h to 7Dh, it indicates the end of adjustment, and proceed to the item "Processing after Adjustments". If it is not, use the DDS display data as W_0 and proceed to step 21 and followings.

Note : Lower two digits of the data which is displayed at the right bottom of he EVF or TV monitor

Order	Page	Address	Data	Procedure
21				Convert the value W_0 to a decimal value to obtain the value W_0'.
22				Calculate the value X_2' from the following equation (decimal calculation). $C' = W_0'+K_1'-W_1'-20$ .... equation 4 $X_2' = \frac{(100 - B') \times (X_1' - 48) + (48 \times C')}{C'}$ ..... equation 5 (The values X_1' and B' are obtained from the equations 2 and 3 in step 13.)
23				Convert the value X_2' to a hexadecimal number to obtain X_2. (Round the number X_2 to count fractions of 0.5 and over as a unit and cut away the rest.)
24	F	40		Set the data X_2 (which is the result of calculation in step 23).
25				Press the PAUSE button.
26	F	41		Change data using PLAY and STOP button until 7Bh appears on the DDS display.
27				Press the PAUSE button.
28	6	01	01	After setting the data, press the PAUSE button.
29				Confirm that the DDS display shows the data in the range from 13 to 17.

Processing after Adjustments:

Order	Page	Address	Data	Procedure
1	6	02	00	After setting the data, press the PAUSE button.
2	6	01	00	After setting the data, press the PAUSE button.
3	F	02	00	After setting the data, press the PAUSE button.
4				Turn off the UNREG power supply once, then turn it on.
5	6	00	00	After setting the data, press the PAUSE button. (End)

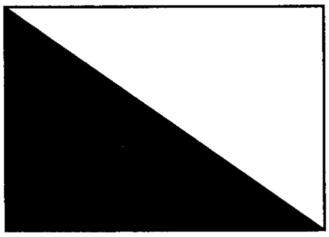
Related adjustments:
"IRIS IN/OUT adjustment"

8. Flange back adjustment

Purpose : Automatic flange back adjustment of inner focus lens.

Adjustment error : Loss of focus when switched between auto focus and manual focus.

Subject	Chart for flange back adjustment (Placed 2000 ± 5 mm in front of the lens with illumination of 300 ± 50 lux.)
Measurement Point	Confirm the focus on monitor TV.
Measuring Instrument	
Adjustment Page	F
Adjustment Address	52, 53 54, 55 56, 57 58, 59



(Chart for flange back adjustment)
(See page 6-2)

Note 1 : Confirm that the "Camera-shaking" correction to OFF. (EXCEPT TRV14E MODEL)

Note 2 : Confirm that the "Digital Zoom" is turned OFF. (EXCEPT TRV14E MODEL)

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Check that the center of the flange back adjustment chart coincides with that of the display on the monitor at both ends: TELE end and the WIDE end of the zoom lens.
2	6	00	01	After setting the data, press the PAUSE button. (Preparation)
3				Confirm that the data at page F, address 52 to 59 is the initial value, referring to the "Page F address list".
4	6	11		Confirm that the data is 00.
5	6	42	02	After setting the data, press the PAUSE button.
6	6	43	01	After setting the data, press the PAUSE button.
7	6	01	13	After setting the data, press the PAUSE button.
8	6	01	15	After setting the data, press the PAUSE button. The adjustment data is automatically input to page: F, addresses : 52 to 59.
9	6	11		Confirm that the data is 01.
10	6	42	00	After setting the data, press the PAUSE button.
11	6	43	00	After setting the data, press the PAUSE button.
12	6	01	00	After setting the data, press the PAUSE button.

Processing after Adjustments:

Order	Procedure
1	Turn the main power supply (7.2 V) OFF, then ON. (If this step is not performed, the camera will be out of focus.)

9. Flange back check

Subject	Siemens star (Placed 2000 ± 5 mm in front of the lens with illumination of about 200 lux.)
Measurement Point	Confirm focus on monitor TV
Measuring Instrument	
Specification Value	Picture must have good focus at both TELE and WIDE ends.

Note 1 : Confirm that the "Camera-shaking" correction to OFF. (EXCEPT TRV14E MODEL)

Note 2 : Confirm that the "Digital Zoom" is turned OFF. (EXCEPT TRV14E MODEL)

Note 3 : It is judged from the page A display on the adjustment remote commander if the picture has good focus while the auto focus is ON.

1) Set data: 0B to the page:6, address: 02.
2) Focus condition can be known from the page A display.

A: 00 : XX

See the right table.

(Bit 2 value 0 : Picture is out of focus.
1 : Picture is in focus.)

Display on the adjustment remote commander	Bit values bit2
0	0
1	0
2	0
3	0
4	1
5	1
6	1
7	1
8	0
9	0
A(A)	0
B(b)	0
C(C)	1
D(d)	1
E(E)	1
F(F)	1

In focus

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Place a Siemens star at 2 meters in front of lens.
2				Decrease illumination to the chart down to a point before noise appears on monitor TV, in order to fully open the IRIS.
3	6	42	02	After setting the data, press the PAUSE button.
4	6	43	01	After setting the data, press the PAUSE button.
5				Shoot the Siemens star at TELE end.
6				Confirm that the image is in focus. (Note 3).
7	6	21	10	After setting the data, press the PAUSE button.
8				Shoot the Siemens star at WIDE end.
9				Confirm that the image is in focus.

Processing after Adjustments:

Order	Page	Address	Data	Procedure
1	6	02	00	After setting the data, press the PAUSE button.
2	6	21	00	After setting the data, press the PAUSE button. (END)
3	6	42	00	After setting the data, press the PAUSE button.
4	6	43	00	After setting the data, press the PAUSE button.

10. Picture frame setting

Subject	Color bar chart standard picture frame
Measurement Point	VIDEO output terminal (Terminated in 75Ω)
Measuring Instrument	Oscilloscope and monitor TV
Specification Value	A=B, C=D, t=0 ± 0.1msec

Note 1 : Confirm that the “Camera-shaking” correction to OFF.
(EXCEPT TRV14E MODEL)

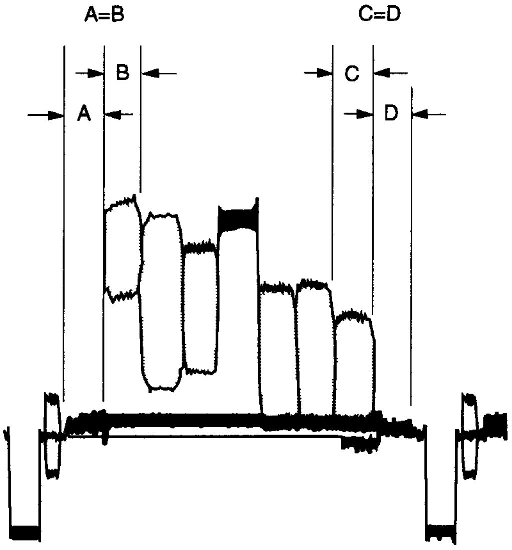
Note 2 : Confirm that the “Digital Zoom” is turned OFF.
(EXCEPT TRV14E MODEL)

Setting procedure:

Order	Procedure
1	Turn OFF the auto focus.
2	Adjust the focus using the focus knob.
3	Adjust direction and zoom of camera so that the picture frame is adjusted as specified by Fig. 6-1-8 and Fig. 6-1-9.
4	Write down markings on the picture frame on the monitor screen. If the “color bar chart standard picture frame” or “white pattern standard picture frame” is specified in the following adjustment items, obtain this picture frame.

Confirm with an oscilloscope

1. Horizontal rate



2. Vertical rate

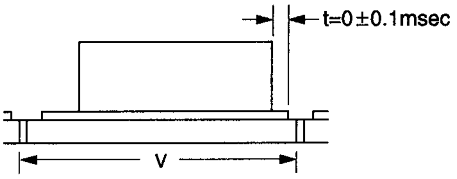


Fig. 6-1-8

Confirm on TV monitor (underscanned display)

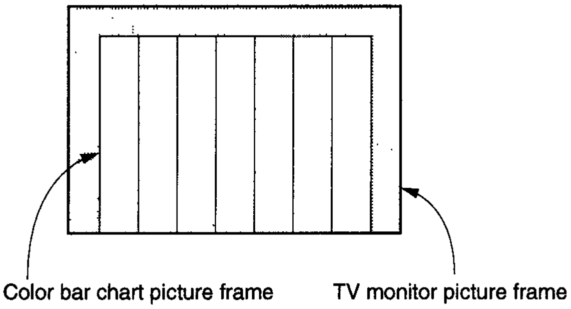


Fig. 6-1-9

11. Color reproduction adjustment

Purpose : Adjust the three primary color matrix coefficients for correct color reproduction.

Adjustment error : Poor color reproduction.

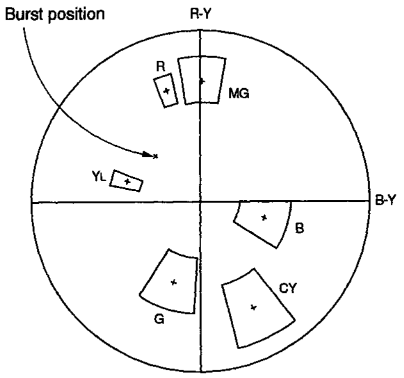
Subject	Color bar chart standard picture frame
Measurement Point	VIDEO output terminal (Terminated in 75Ω)
Measuring Instrument	Vectorscope
Adjustment Page	F
Adjustment Address	43, 44, 45, 46
Specification Value	Each spot must be located within the specified color reproduction zone on a vectorscope display.

Note 1 : Confirm that the "Camera-shaking" correction to OFF. (EXCEPT TRV14E MODEL)

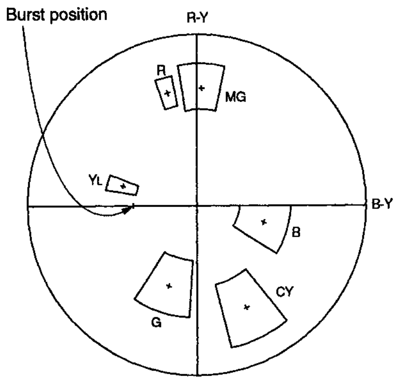
Note 2 : Confirm that the "Digital Zoom" is turned OFF. (EXCEPT TRV14E MODEL)

Adjustment procedure:

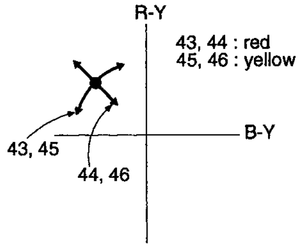
Order	Page	Address	Data	Procedure	Condition
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)	
2	6	42	02	After setting the data, press the PAUSE button.	
3	6	03	00	After setting the data, press the PAUSE button. (Setting)	
4	F	80		Take note of the data.	
5	F	80	00	After setting the data, press the PAUSE button.	
6	6	01	37	After setting the data, press the PAUSE button.	
7	F	43, 44 45, 46		Change the data so that red, yellow, magenta, green, cyan and blue spot must be located within the specified color reproduction zone on a vectorscope display. Press the PAUSE button for each address.	Weighting OFF mode.



PAL (510H/760H) MODEL



NTSC (510H) MODEL



Processing after Adjustments:

Order	Page	Address	Data	Procedure
1	6	42	00	After setting the data, press the PAUSE button.
2	6	01	00	After setting the data, press the PAUSE button.
3	F	80		Set the data which is noted in step 4, then press the PAUSE button.
4	6	03	10	After setting the data, press the PAUSE button. (Setting)
5	6	00	00	After setting the data, press the PAUSE button. (End)

Related Adjustments:

"Auto white balance reference data input"

"Auto white balance adjustment"

12. IRIS IN/OUT adjustment

Purpose : Measure the light level and write into EE PROM for indoor/outdoor identification in auto white balance.

Adjustment error : Incorrect white balance.

Subject	White pattern standard picture frame
Measurement Point	EVF or DDS display of monitor TV
Measuring Instrument	
Adjustment Page	F
Adjustment Address	50 51

Note 1 : Confirm that the "Camera-shaking" correction to OFF.
(EXCEPT TRV14E MODEL)

Note 2 : Confirm that the "Digital Zoom" is turned OFF.
(EXCEPT TRV14E MODEL)

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	F	02	21	After setting the data, press the PAUSE button.
3				Turn off the UNREG power supply once, then turn it on.
4	6	00	01	After setting the data, press the PAUSE button.
5	6	11		Confirm that the date is 00.
6	6	01	4B	After setting the data, press the PAUSE button.
7	6	01	49	After setting the data, press the PAUSE button.
8	6	11		If data is 01, this is the end of data read. The data of page F, address 50 and 51 are automatically input to this memory.

Processing after Adjustments:

Order	Page	Address	Data	Procedure
1	6	01	00	After setting the data, press the PAUSE button.
2	F	02	00	After setting the data, press the PAUSE button.
3				Turn off the UNREG power supply once, then turn it on.
4	6	00	00	After setting the data, press the PAUSE button. (End)

13. Auto white balance reference data input

Subject	White pattern standard picture frame
Adjustment Page	F
Adjustment Address	49, 4A 4B, 4C

Note 1 : Confirm that the "Camera-shaking" correction to OFF. (EXCEPT TRV14E MODEL)

Note 2 : Confirm that the "Digital Zoom" is turned OFF. (EXCEPT TRV14E MODEL)

Note 3 : The "Color reproduction adjustment" must have been completed before making this adjustment.

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Turn the main power OFF then to ON.
2				Shoot a white pattern with the standard picture frame.
3	6	00	01	After setting the data, press the PAUSE button.
4	6	11		Confirm that data is 00.
5	6	01	11	After setting the data, press the PAUSE button.
6	6	01	0D	After setting the data, press the PAUSE button. (Executes the auto white balance reference data input.)
7	6	11		If data is 01, this is the end of data read. The data of page F, address 49 to 4C are automatically input to this memory.

Processing after Adjustments:

Order	Page	Address	Data	Procedure
1	6	01	00	After setting the data, press the PAUSE button.
2				Execute "Auto white balance adjustment".
3	6	00	00	After setting the data, press the PAUSE button. (End)

Related Adjustments:

Auto white balance adjustment

14. MAX gain adjustment

Purpose : Sets the minimum illumination level.
Adjustment error : Normal video level cannot be obtained at low illumination (dark).

Subject	White pattern standard picture frame
Measurement Point	Data of the page A of the adjustment remote commander
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	42
Specification Value	Confirm that the data of page A of the adjustment remote commander is B0h or more.

Note 1 : Confirm that the "Camera-shaking" correction to OFF.
(EXCEPT TRV14E MODEL)
Note 2 : Confirm that the "Digital Zoom" is turned OFF.
(EXCEPT TRV14E MODEL)

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	6	02	01	After setting the data, press the PAUSE button.
3	6	42	02	Steady shot model only. After setting the data, press the PAUSE button.
4	6	04	58	After setting the data, press the PAUSE button.
5	6	01	19	After setting the data, press the PAUSE button.
6	F	42	08	After setting the data, press the PAUSE button.
7				Confirm that the data of page A of the adjustment remote commander is B0h or more.

Processing after Adjustments:

Order	Page	Address	Data	Procedure
1	6	01	00	After setting the data, press the PAUSE button.
2	6	02	00	After setting the data, press the PAUSE button.
3	6	04	00	After setting the data, press the PAUSE button.
4	6	42	00	Steady shot model only. After setting the data, press the PAUSE button.
5	6	00	00	After setting the data, press the PAUSE button. (End)

15. Auto white balance adjustment

Purpose : Adjust for correct auto white balance.
Adjustment error : Poor color reproduction.

Subject	White pattern standard picture frame
Filter	Color temperature correction filter C14
Measurement Point	EVF or DDS display on monitor TV
Measuring Instrument	
Adjustment Page	F
Adjustment Address	4E, 4F
Specification Value	R ratio = 2XX0h ± 40h XX = Data at address : F5 on page F (For example, when the data XX is B8, the R ratio is 2B80h ± 40h) B ratio = YY80h ± 80h YY = Data at address : F6 on page F (For example, when the data YY is 5Eh, the B ratio is 5E80h ± 80h)

Note 1 : Make this adjustment after "Auto white balance reference data input" is completed.
Note 2 : Confirm that the "Camera-shaking" correction to OFF. (EXCEPT TRV14E MODEL)
Note 3 : Confirm that the "Digital Zoom" is turned OFF. (EXCEPT TRV14E MODEL)

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Put on the color temperature correction filter C14 on the lens.
2	F	F5		Read the data of this address. The read-out data should be used as the specification value calculation data XX.
3	F	F6		Read the data of this address. The read-out data should be used as the specification value calculation data YY.
4	6	00	01	After setting the data, press the PAUSE button. (Preparation 1)
5	F	02	21	After setting the data, press the PAUSE button. (Preparation 2)
6				Turn off the UNREG power supply once, then turn it on.
7	6	00	01	After setting the data, press the PAUSE button.
8	6	01	35	After setting the data, press the PAUSE button.
9	6	02	04	After setting the data, press the PAUSE button. Sets the R ratio display mode.
10	F	4E		Change data using the PLAY and STOP buttons until the R ratio data on the DDS display becomes the specification value. R ratio data = 2000h + 10h × D_{F5} (D_{F5} = Page F, Address : F5 data)
11	6	02	05	After setting the data, press the PAUSE button. Sets the B ratio display mode.
12	F	4F		Change data using the PLAY and STOP buttons until the B ratio data on the DDS display becomes the specification value. B ratio data = 80h + 100h × D_{F6} (D_{F6} = Page F, Address: F6 data)
13				Press the PAUSE button.

Processing after Adjustments:

Order	Page	Address	Data	Procedure
1	6	01	00	After setting the data, press the PAUSE button.
2	6	02	00	Releases the B ratio display mode.
3	F	02	00	After setting the data, press the PAUSE button. (End 2)
4				Turn off the UNREG power supply once, then turn it on.
5	6	00	00	After setting the data, press the PAUSE button. (End 1)

16. White balance check

Subject	White pattern standard picture frame
Filter	Color temperature correction filter C14 ND filter 1.0 and 0.3
Measurement Point	VIDEO output terminal (Terminated in 75Ω)
Measuring Instrument	Vectorscope
Specification Value	Fig. 6-1-10. A ~ C

Note 1 : Confirm that the "Camera-shaking" correction to OFF.
(EXCEPT TRV14E MODEL)
Note 2 : Confirm that the "Digital Zoom" is turned OFF.
(EXCEPT TRV14E MODEL)

Check procedure:

Order	Page	Address	Data	Procedure	Condition
1				Check that the lens is not covered by either filter.	
2	6	01	0F	After setting the data, press the PAUSE button.	
3				Check that the white luminance point is located within the circle shown in Fig. 6-1-10 (a).	Without filter.
4	6	01	00	After setting the data, press the PAUSE button.	
5	6	01	23	After setting the data, press the PAUSE button.	
6				Put the C14 filter on the lens.	
7				Check that the white luminance point is located within the circle shown in Fig. 6-1-10 (b).	C14 filter
8				Remove the C14 filter and put ND filter 1.3 (1.0+0.3) on the lens.	
9				Check that the white luminance point is located within the circle shown in Fig. 6-1-10 (c).	ND Filter 1.3

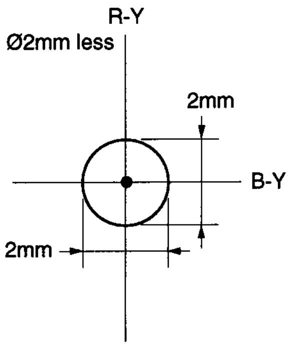


Fig. 6-1-10 (a)

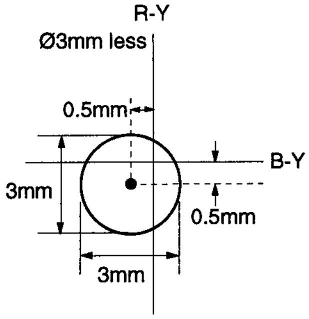


Fig. 6-1-10 (b)

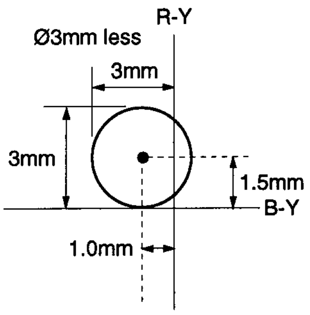


Fig. 6-1-10 (c)

Processing after Adjustments:

Order	Page	Address	Data	Procedure
1	6	01	00	After setting the data, press the PAUSE button.
2	6	00	00	After setting the data, press the PAUSE button. (End)

17. Velocity sensor sensitivity adjustment (EXCEPT TRV14E)

The "Velocity Sensor Sensitivity Adjustment" is necessary only when the gyro sensor is replaced. If microprocessors or circuit board is not replaced, this adjustment is not necessary. Make operation check only.

Subject	
Measurement point	VIDEO output terminal
Measuring equipment	Oscilloscope or TV monitor
Adjustment page	F
Adjustment address	5A, 5B
Specified value	Shoot an arbitrary object at TELE end, and confirm that the STEADYSHOT function works correctly.

Note 1 : Caution when replacing parts
The two types of parts : ENC05GA and ENC05GB are supplied. Use the same type of sensor as that of the defective sensor. If different type of either ENC05GA or ENC05GB is used, picture can vibrate vertically or horizontally during camera-shake correction. After replacement, make adjustment as described.

Note 2 : Caution on angular speed sensor
The angular speed sensor has high precision vibrator inside. If the sensor is dropped, balance of the vibrator is lost resulting in faulty operation. Handle the sensor carefully.

Note 3 : The sensor sensitivity is indicated on the surface of the

Adjustment procedure:

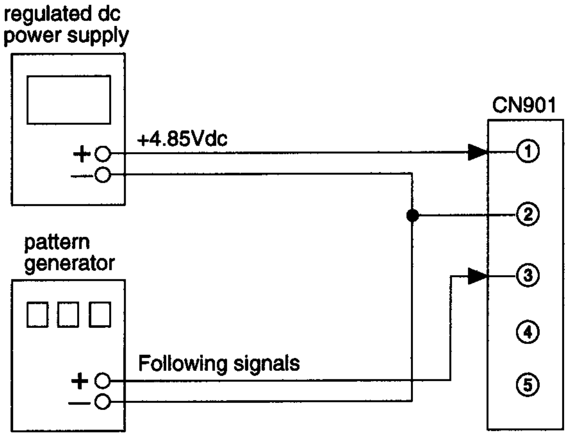
Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2				Adjust SE651 (vertical direction correction) first : Read the sensor sensitivity value which is indicated on the replacement gyro sensor (SE651). Calculate the following equation (decimal calculation) to obtain the D_1'. (Note 3) $D_1' = \frac{95}{\text{SE651 sensor sensitivity value}}$: NTSC $D_1' = \frac{114}{\text{SE651 sensor sensitivity value}}$: PAL
3	F	5A		Round the number D_1' to count fractions of 0.5 and over as a unit and cut away the rest. Then convert the D_1' into the hexadecimal number. (Use page 6-12 ⟨How to convert the hexadecimal number to decimal number⟩ or "Hexadecimal-Decimal Conversion Table".) The result hexadecimal number is D_1. Set the data D_1 to page : F, address : 5A, and press the PAUSE button.
4				Adjust thcn SE650 (horizontal direction correction) : Read the sensor sensitivity value which is indicated on the replacement gyro sensor (SE650). Calculate the following equation (decimal calculation) to obtain the D_2'. (Note 3) $D_2' = \frac{95}{1.04} \times \frac{1}{\text{SE650 sensor sensitivity value}}$: NTSC $D_2' = \frac{11}{1.23} \times \frac{1}{\text{SE650 sensor sensitivity value}}$: PAL
5	F	5B		Round the number D_2' to count fractions of 0.5 and over as a unit and cut away the rest. Then convert the D_2' into the hexadecimal number. (Use page 6-12 ⟨How to convert the hexadecimal number to decimal number⟩ or "Hexadecimal-Decimal Conversion Table".) The result hexadecimal number is D_2. Set the data D_2 to page : F, address : 5B, and press the PAUSE button.
6				Shoot an arbitrary object at TELE end, and confirm that the steady shot function works correctly.
7	6	00	00	After setting the data, press the PAUSE button. (End)

18. Electronic viewfinder system adjustments (VF-102 board)

Note : About 2200V dc is applied to CRT anode and about 200 Vdc to the grid. Be careful not to touch them. If hand touches them, there is danger of electric shock

Preparation :

1. Disconnect a flexible board from CN901 on VF-102 board.
2. Connect equipments as follows.



Required signals

1. Monoscope signal

Output amplitude:	1.0 Vp-p (75Ω terminated)
Horizontal resolution:	600 TV lines or more
Vertical resolution:	350 TV lines or more

2. Dot pattern signal

Output amplitude	1.0 Vp-p (75Ω terminated)

3. Contrast signal

Output amplitude	0.5 Vp-p (75Ω terminated)
fH :	15.750kHz (NTSC) 15.625kHz (PAL)
fV :	60Hz (NTSC) 50Hz (PAL)

Others: Complies with NTSC and PAL. (Refer to Fig. 6-1-12.)

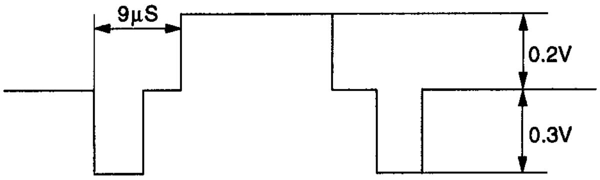


Fig. 6-1-11

VF-102 BOARD (SIDE A)

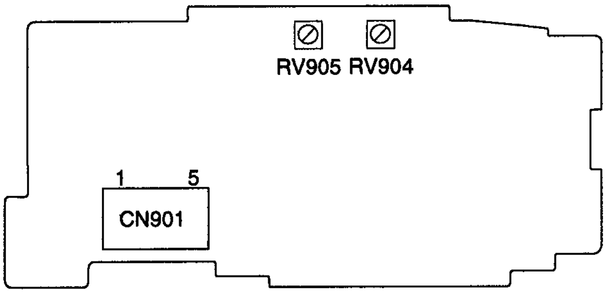


Fig 6-1-12

18-1. Power supply voltage check

Measuring Instrument	Digital voltmeter
EVF5V	
Measurement Point	CN901 Pin ①
Specification Value	4.65 + 0.1Vdc

18-2. Horizontal and vertical position

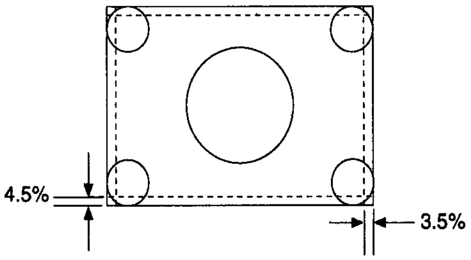
Purpose : Maintains horizontal position.

Adjustment error : Horizontal position cannot be maintained.

Signal	Monoscope signal
Adjustment	RV905
Specification Value	Overscan 3.5 ± 3.5% (horizontal) (one side) Overscan 4.5 ± 5% (vertical) (one side)

Adjustment procedure:

Order	Procedure
1	Confirm that the horizontal and vertical picture sizes satisfy the specification values.



18-3. BRIGHT adjustment

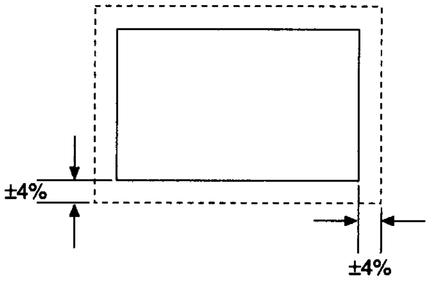
Signal	Monoscope signal
Measurement Point	CRT screen
Adjustment	RV904
Specification Value	Each step of gray scale signal is displayed clearly.

Adjustment procedure:

Order	Procedure
1	Adjust RV904 until each step of gray scale signal is clearly display. (For the brighter region, do not increase brightness to such an extent that the cross-hatch at the center of monoscope signal becomes flared. For the dark region, do not decrease brightness to such an extent that the first step (the darkest step) and the third step cannot be identified.)

18-4. Centering adjustment

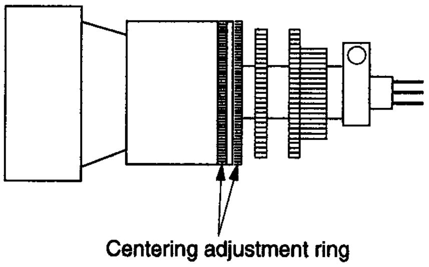
Signal	Monoscope signal
Adjustment	DY centering
Specification Value	± 4%



Adjustment procedure:

Order	Data Procedure
1	Adjust DY centering adjustment ring so that margins at top, bottom, right and left are equal.

Note : The centering position is affected by earth magnetism. Rotate the camera 360 degrees and find the amount of centering change. Make the adjustment to the center of the change.

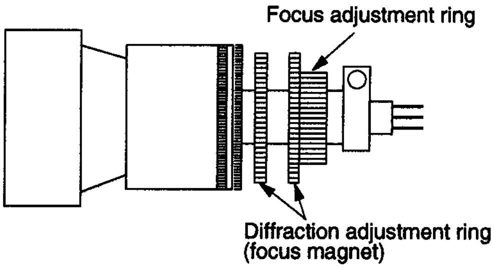


18-5. Focus adjustment

Signal	Monoscope signal
Adjustment	DY focus ring
Specification Value	Horizontal resolution is 300 lines or more.

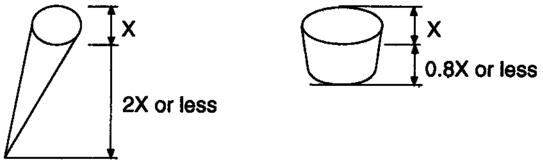
Adjustment procedure:

Order	Procedure
1	Adjust focus ring for optimum focus. Confirm that the horizontal resolution satisfies the specification.



18-6. Diffraction adjustment

Signal	Dot pattern, Monoscope signal
Adjustment	DY diffraction adjustment ring
Specification Value	Refer to the illustration below.



Adjustment procedure:

Order	Procedure
1	Adjust the diffraction adjustment ring so that tail of a dot must be smaller than 2 times of dot diameter, or the fanshaped diffraction must smaller than the dot diameter.
2	If the focus and centering are affected by this adjustment, input monoscope signal and repeat focus and centering adjustments.

Related Adjustments:

Focus adjustment

Centering adjustment

19. COLOR ELECTRONIC VIEWFINDER SYSTEM ADJUSTMENTS

[Adjustment connector]

The viewfinder adjustment points have gathered to CN702 of the VF-110 board. Connect the measuring equipment to CN702 via the jig (J-6082-192-A). The table below shows the pin numbers and the signal names of CN702.

Pin No.	Signal Name
1	LC COM
2	EVF GND
3	G OUT
4	13.5V
5	N.C.
6	12V
7	R OUT
8	B OUT
9	SLYT
10	PCO

Preparation:

Because this machine does not have VIDEO INPUT connector, playback the alignment tape and use the playback signal for adjustment.

Alignment tape :
WR5-5CSP : PAL
(Parts code : 8-967-995-47)
WR5-5NSP : NTSC
(Parts code : 8-967-995-42)

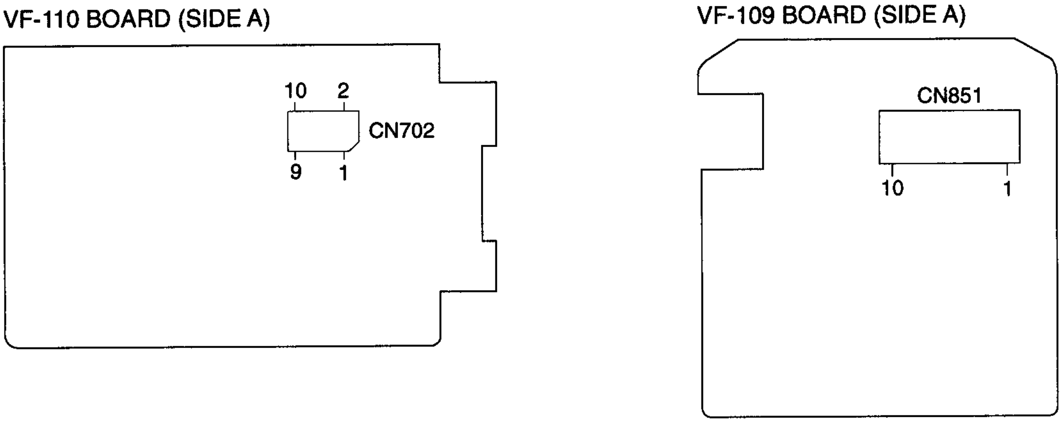


Fig. 6-1-13

19-1. Power supply voltage check (VF-109 board)

Mode	Camera record
Subject	Any subject
Measuring Equipment	Digital voltmeter
EVF 5V check	
Measuring Point	CN851 pin ⑤
Specification Value	4.65 ± 0.05Vdc
EVF15 V check	
Measuring Point	CN851 pin ⑦
Specification Value	15.0 ± 0.05Vdc

Ref. No.	Part No.	Description			Remarks
	A-7073-135-A	VF-102 BOARD, COMPLETE			
		**********************			
		(TRV32/TRV34/TRV44/TRV52/TRV312/TRV512)			
	A-7073-078-A	VF-102 BOARD, COMPLETE			
		**********************			
					(TRV14E/TRV24E/TRV44E)
					(Ref.No.4,000 Series)
		< CAPACITOR >			
C902	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C903	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C904	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C905	1-104-752-11	TANTAL. CHIP	33uF	20%	6.3V
C906	1-162-638-11	CERAMIC CHIP	1uF		16V
C907	1-104-563-11	FILM CHIP	0.1uF	5%	16V
C908	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
⚠C910	1-164-756-11	CERAMIC CHIP	0.0033uF	5%	50V
⚠C911	1-164-713-11	CERAMIC CHIP	0.0056uF	5%	50V
C912	1-107-854-11	TANTAL. CHIP	68uF	20%	6.3V
C914	1-128-007-11	ELECT CHIP	2.2uF	20%	35V
C915	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C916	1-164-611-11	CERAMIC CHIP	0.001uF	10%	500V
C919	1-126-245-11	ELECT	330uF	20%	6.3V
		< CONNECTOR >			
CN901	1-566-537-11	CONNECTOR, FPC (NON ZIF) 5P			
CN902	1-573-290-21	PIN, CONNECTOR (1.5MM) (SMD) 4P			
		< DIODE >			
D901	8-719-951-21	DIODE PR1102W-TR			
D902	8-719-404-49	DIODE MA111			
		< IC >			
IC901	8-759-196-14	IC BA7149F-E2			
		< COIL >			
L901	1-412-031-11	INDUCTOR CHIP 47uH			
L902	1-410-387-11	INDUCTOR CHIP 33uH			
⚠L903	1-411-697-11	COIL, FERRITE (HLC)			
L904	1-414-757-11	INDUCTOR 100uH			
		< TRANSISTOR >			
Q902	8-729-106-68	TRANSISTOR 2SD1615A-GP			
Q903	8-729-216-31	TRANSISTOR 2SA1163-G			
Q904	8-729-230-63	TRANSISTOR 2SC4116-YG			
		< RESISTOR >			
R901	1-216-817-11	METAL CHIP	470	5%	1/16W
R902	1-216-817-11	METAL CHIP	470	5%	1/16W
R903	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R906	1-216-813-11	METAL CHIP	220	5%	1/16W
R907	1-216-845-11	METAL CHIP	100K	5%	1/16W
R908	1-216-852-11	METAL CHIP	390K	5%	1/16W
R909	1-216-833-11	METAL CHIP	10K	5%	1/16W
R910	1-216-835-11	METAL CHIP	15K	5%	1/16W
R912	1-216-857-11	METAL CHIP	1M	5%	1/16W
R916	1-218-881-11	METAL GLAZE	27K	0.50%	1/16W
					(TRV14E/TRV24E/TRV44E)
R916	1-218-879-11	METAL GLAZE	22K	0.50%	1/16W
		(TRV32/TRV34/TRV44/TRV52/TRV312/TRV512)			
R917	1-218-893-11	METAL GLAZE	82K	0.50%	1/16W
					(TRV14E/TRV24E/TRV44E)
R917	1-218-891-11	METAL GLAZE	68K	0.50%	1/16W
		(TRV32/TRV34/TRV44/TRV52/TRV312/TRV512)			
R918	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R919	1-216-839-11	METAL CHIP	33K	5%	1/16W
R920	1-216-837-11	METAL CHIP	22K	5%	1/16W
R921	1-216-795-11	METAL GLAZE	6.8	5%	1/16W
R922	1-216-847-11	METAL CHIP	150K	5%	1/16W
R923	1-216-857-11	METAL CHIP	1M	5%	1/16W
R924	1-216-862-11	METAL GLAZE	2.7M	5%	1/16W
R925	1-216-862-11	METAL GLAZE	2.7M	5%	1/16W
R926	1-216-821-11	METAL CHIP	1K	5%	1/16W
R927	1-216-821-11	METAL CHIP	1K	5%	1/16W
R928	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R929	1-216-818-11	METAL CHIP	560	5%	1/16W
R930	1-216-791-11	METAL CHIP	3.3	5%	1/16W
R931	1-217-671-11	METAL CHIP	1	5%	1/10W
R932	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
		< VARIABLE RESISTOR >			
RV904	1-238-862-11	RES, ADJ, CERMET 1M			
RV905	1-238-852-11	RES, ADJ, CERMET 470			
		< TRANSFORMER >			
⚠T901	1-453-124-11	TRANSFORMER ASSY, FLYBACK			
		< SOCKET >			
⚠W901	1-540-019-21	SOCKET ASSY, CRT			

Ref. No.	Part No.	Description			Remarks
	A-7073-084-A	VF-109 BOARD, COMPLETE (TRV53)			
		***********************			
					(Ref.No.7,000 Series)
		< CAPACITOR >			
C851	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C852	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C853	1-104-916-11	TANTAL. CHIP	6.8uF	20%	20V
C854	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C855	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C856	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C857	1-164-676-11	CERAMIC CHIP	2200PF	5%	16V
C858	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C859	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C860	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C865	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C867	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C868	1-165-128-11	CERAMIC CHIP	0.22uF		16V
C870	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C871	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
		< CONNECTOR >			
CN851	1-573-350-11	CONNECTOR, FFC/FPC 10P			
* CN852	1-573-984-11	CONNECTOR, BOARD TO BOARD 10P			

Note : The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	**Note :** Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remarks
		< DIODE >	
D852	8-719-043-70	DIODE MA6S121-(TX)	
D853	8-719-404-49	DIODE MA111	
		< IC >	
IC851	8-759-097-75	IC MB3789PFV-G-BND-ER	
IC852	8-759-510-71	IC BA10358F-E2	
		< COIL >	
L853	1-412-033-11	INDUCTOR CHIP 220uH	
		< TRANSISTOR >	
Q853	8-729-028-81	TRANSISTOR DTA123JUA-T106	
		< RESISTOR >	
R852	1-216-841-11	METAL CHIP 47K 5%	1/16W
R853	1-218-899-11	METAL GLAZE 150K 0.50%	1/16W
R854	1-218-903-11	METAL GLAZE 220K 0.50%	1/16W
R855	1-216-834-11	METAL CHIP 12K 5%	1/16W
R856	1-218-899-11	METAL GLAZE 150K 0.50%	1/16W
R857	1-218-905-11	METAL GLAZE 270K 0.50%	1/16W
R858	1-216-834-11	METAL CHIP 12K 5%	1/16W
R859	1-218-901-11	METAL GLAZE 180K 0.50%	1/16W
R860	1-218-887-11	METAL GLAZE 47K 0.50%	1/16W
R861	1-216-843-11	METAL CHIP 68K 5%	1/16W
R862	1-216-838-11	METAL CHIP 27K 5%	1/16W
R863	1-216-847-11	METAL CHIP 150K 5%	1/16W
R864	1-216-841-11	METAL CHIP 47K 5%	1/16W
R865	1-216-839-11	METAL CHIP 33K 5%	1/16W
R866	1-216-846-11	METAL CHIP 120K 5%	1/16W
R867	1-216-845-11	METAL CHIP 100K 5%	1/16W
R868	1-216-841-11	METAL CHIP 47K 5%	1/16W
R869	1-216-843-11	METAL CHIP 68K 5%	1/16W
R870	1-216-842-11	METAL CHIP 56K 5%	1/16W
R871	1-216-850-11	METAL CHIP 270K 5%	1/16W
R872	1-216-833-11	METAL CHIP 10K 5%	1/16W
R873	1-216-851-11	METAL CHIP 330K 5%	1/16W
R874	1-216-847-11	METAL CHIP 150K 5%	1/16W
R875	1-216-822-11	METAL CHIP 1.2K 5%	1/16W
R879	1-216-837-11	METAL CHIP 22K 5%	1/16W
R881	1-216-853-11	METAL CHIP 470K 5%	1/16W
R891	1-216-296-91	CONDUCTOR, CHIP (3216)	

A-7073-085-A VF-110 BOARD, COMPLETE (TRV53)
****

(Ref.No.7,000 Series)

Ref. No.	Part No.	Description	Remarks
		< CAPACITOR >	
C701	1-162-974-11	CERAMIC CHIP 0.01uF	50V
C702	1-162-974-11	CERAMIC CHIP 0.01uF	50V
C703	1-162-974-11	CERAMIC CHIP 0.01uF	50V
C704	1-107-682-11	CERAMIC CHIP 1uF 10%	16V
C705	1-135-259-11	TANTAL. CHIP 10uF 20%	6.3V
C706	1-162-969-11	CERAMIC CHIP 0.0068uF 10%	25V
C708	1-107-682-11	CERAMIC CHIP 1uF 10%	16V
C709	1-162-974-11	CERAMIC CHIP 0.01uF	50V
C710	1-162-919-11	CERAMIC CHIP 22PF 5%	50V
C711	1-162-974-11	CERAMIC CHIP 0.01uF	50V
C712	1-135-259-11	TANTAL. CHIP 10uF 20%	6.3V
C713	1-164-156-11	CERAMIC CHIP 0.1uF	25V
C714	1-162-974-11	CERAMIC CHIP 0.01uF	50V
C715	1-162-974-11	CERAMIC CHIP 0.01uF	50V
C717	1-162-974-11	CERAMIC CHIP 0.01uF	50V
C718	1-165-176-11	CERAMIC CHIP 0.047uF 10%	16V
C719	1-135-259-11	TANTAL. CHIP 10uF 20%	6.3V
C723	1-162-974-11	CERAMIC CHIP 0.01uF	50V
C724	1-164-227-11	CERAMIC CHIP 0.022uF 10%	25V
C725	1-162-974-11	CERAMIC CHIP 0.01uF	50V
C728	1-162-974-11	CERAMIC CHIP 0.01uF	50V
C729	1-163-077-00	CERAMIC CHIP 0.1uF 10%	25V
C730	1-163-077-00	CERAMIC CHIP 0.1uF 10%	25V
C731	1-163-077-00	CERAMIC CHIP 0.1uF 10%	25V
C732	1-115-156-11	CERAMIC CHIP 1uF	10V
C733	1-165-320-11	CERAMIC CHIP 0.47uF 10%	16V
C734	1-164-156-11	CERAMIC CHIP 0.1uF	25V
C735	1-162-974-11	CERAMIC CHIP 0.01uF	50V
C736	1-135-179-21	TANTAL. CHIP 2.2uF 20%	16V
C737	1-162-974-11	CERAMIC CHIP 0.01uF	50V
C738	1-162-974-11	CERAMIC CHIP 0.01uF	50V
C739	1-162-967-11	CERAMIC CHIP 0.0033uF 10%	50V
C740	1-135-181-21	TANTALUM CHIP 4.7uF 20%	6.3V
C741	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C742	1-135-259-11	TANTAL. CHIP 10uF 20%	6.3V
C744	1-162-927-11	CERAMIC CHIP 100PF 5%	50V
C745	1-164-357-11	CERAMIC CHIP 1000PF 5%	50V
C746	1-162-974-11	CERAMIC CHIP 0.01uF	50V
C747	1-164-156-11	CERAMIC CHIP 0.1uF	25V
C748	1-164-346-11	CERAMIC CHIP 1uF	16V
C749	1-115-156-11	CERAMIC CHIP 1uF	10V
C750	1-162-974-11	CERAMIC CHIP 0.01uF	50V
C751	1-107-688-11	TANTAL. CHIP 1.5uF 20%	20V
C752	1-162-974-11	CERAMIC CHIP 0.01uF	50V
		< CONNECTOR >	
CN701	1-766-346-21	CONNECTOR, FFC/FPC 16P	
* CN702	1-573-984-11	CONNECTOR, BOARD TO BOARD 10P	
CN703	1-573-925-11	CONNECTOR, FFC/FPC (ZIF) 16P	
		< DIODE >	
D701	8-719-951-21	DIODE PR1102W-TR	
D702	8-719-404-49	DIODE MA111	
D704	8-713-102-80	DIODE 1T369-01-T8A	
		< IC >	
IC701	8-752-067-59	IC CXA1785R-T4	
IC702	8-759-251-40	IC MB88E346PFV-G-BND-ER	
IC703	8-759-075-66	IC TA75S01F(TE85R)	
IC704	8-752-377-97	IC CXD2411AR-T4	
		< COIL >	
L701	1-412-951-11	INDUCTOR 10uH	
L702	1-412-962-11	INDUCTOR 82uH	
L704	1-412-959-11	INDUCTOR 47uH	
L707	1-412-949-21	INDUCTOR 6.8uH	
		< TRANSISTOR >	
Q703	8-729-427-74	TRANSISTOR XP4601	

Ref. No.	Part No.	Description			Remarks
		< RESISTOR >			
R701	1-216-819-11	METAL CHIP	680	5%	1/16W
R703	1-218-877-11	METAL GLAZE	18K	0.50%	1/16W
R704	1-216-857-11	METAL CHIP	1M	5%	1/16W
R705	1-216-842-11	METAL CHIP	56K	5%	1/16W
R707	1-216-841-11	METAL CHIP	47K	5%	1/16W
R708	1-216-833-11	METAL CHIP	10K	5%	1/16W
R710	1-216-821-11	METAL CHIP	1K	5%	1/16W
R711	1-216-814-11	METAL CHIP	270	5%	1/16W
R712	1-216-821-11	METAL CHIP	1K	5%	1/16W
R716	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R717	1-216-844-11	METAL CHIP	82K	5%	1/16W
R718	1-216-845-11	METAL CHIP	100K	5%	1/16W
R719	1-216-850-11	METAL CHIP	270K	5%	1/16W
R721	1-216-833-11	METAL CHIP	10K	5%	1/16W
R723	1-220-397-11	METAL GLAZE	4.7M	5%	1/16W
R724	1-216-839-11	METAL CHIP	33K	5%	1/16W
R725	1-216-839-11	METAL CHIP	33K	5%	1/16W
R726	1-216-864-11	METAL CHIP	0	5%	1/16W
R727	1-216-840-11	METAL CHIP	39K	5%	1/16W
R728	1-216-839-11	METAL CHIP	33K	5%	1/16W
R729	1-216-839-11	METAL CHIP	33K	5%	1/16W
R730	1-216-840-11	METAL CHIP	39K	5%	1/16W
R731	1-216-849-11	METAL CHIP	220K	5%	1/16W
R732	1-216-853-11	METAL CHIP	470K	5%	1/16W
R734	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R735	1-216-839-11	METAL CHIP	33K	5%	1/16W
R736	1-216-839-11	METAL CHIP	33K	5%	1/16W
R737	1-216-807-11	METAL CHIP	68	5%	1/16W
R738	1-216-807-11	METAL CHIP	68	5%	1/16W
R739	1-216-807-11	METAL CHIP	68	5%	1/16W
R740	1-216-833-11	METAL CHIP	10K	5%	1/16W
R746	1-216-839-11	METAL CHIP	33K	5%	1/16W
R748	1-216-864-11	METAL CHIP	0	5%	1/16W
R749	1-216-833-11	METAL CHIP	10K	5%	1/16W
R750	1-216-841-11	METAL CHIP	47K	5%	1/16W
R753	1-216-839-11	METAL CHIP	33K	5%	1/16W
R754	1-216-839-11	METAL CHIP	33K	5%	1/16W
R755	1-216-839-11	METAL CHIP	33K	5%	1/16W
R756	1-216-833-11	METAL CHIP	10K	5%	1/16W
R757	1-216-839-11	METAL CHIP	33K	5%	1/16W
R761	1-216-821-11	METAL CHIP	1K	5%	1/16W
R762	1-216-838-11	METAL CHIP	27K	5%	1/16W
R763	1-216-842-11	METAL CHIP	56K	5%	1/16W
R768	1-218-875-11	METAL GLAZE	15K	0.50%	1/16W
R769	1-218-905-11	METAL GLAZE	270K	0.50%	1/16W
R770	1-216-849-11	METAL CHIP	220K	5%	1/16W
R771	1-216-837-11	METAL CHIP	22K	5%	1/16W
		< VIBRATOR >			
X701	1-579-466-11	VIBRATOR, CRYSTAL 3.58MHz			

Ref. No.	Part No.	Description	Remarks
		MISCELLANEOUS *************	
61	1-542-312-11	BOOK, MICRO	
73	1-782-154-11	CABLE, FLEXIBLE FLAT 12P	
101	1-475-068-11	SWITCH BLOCK, CONTROL(MF-7800)	
116	1-505-291-11	SPEAKER (DIA 2.8CM)	
118	1-782-153-11	CABLE, FLEXIBLE FLAT 45P	
⚠128	1-517-654-11	TUBE, FLUORESCENT COLD CATHODE (TRV32/TRV34/TRV53/TRV312)	
⚠128	1-517-655-11	TUBE, FLUORESCENT COLD CATHODE (TRV44/TRV52/TRV512/TRV44E)	
⚠128	1-517-524-51	TUBE, FLUORESCENT COLD CATHODE (TRV14E/TRV24E)	
129	1-801-667-11	INDICATOR MODULE, LIQUID CRYST (TRV44/TRV52/TRV512/TRV44E)	
129	1-801-669-11	INDICATOR MODULE, LIQUID CRYST (TRV32/TRV34/TRV53/TRV312)	
129	1-801-666-11	INDICATOR MODULE, LIQUID CRYST (TRV14E)	
131	1-957-150-11	HARNESS (CP-74)	
131	1-957-152-11	HARNESS (CP-75)	
132	1-957-151-11	HARNESS (CS-111)(TRV24E)	
132	1-957-153-11	HARNESS (CS-112)	
137	1-801-697-11	DISPLAY PANEL, LIQUID CRYSTAL	
137	1-801-697-21	DISPLAY PANEL, LIQUID CRYSTAL	
141	1-660-433-11	FP-410 FLEXIBLE BOARD	
156	1-782-155-11	CABLE, FLEXIBLE FLAT 16P	
158	1-665-151-11	FP-550 FLEXIBLE BOARD	
160	1-665-150-11	FP-549 FLEXIBLE BOARD (EXCEPT TRV14E)	
162	8-848-710-01	LENS, ZOOM (VCL-4214VA)	
164	1-547-787-41	FILTER BLOCK, OPTICAL (EXCEPT TRV14E)	
164	1-547-924-41	FILTER BLOCK, OPTICAL (TRV14E)	
208	8-756-016-10	LCX005BK-5	
212	1-665-152-11	FP-551 FLEXIBLE BOARD	
258	1-782-156-11	CABLE, FLEXIBLE FLAT 5P	
⚠259	1-452-673-31	CRT ASSY (M01KXX90WB)	
762	1-657-786-11	FP-221 FLEXIBLE BOARD	
803	1-657-785-11	FP-248 FLEXIBLE BOARD	
817	1-657-784-11	FP-220 FLEXIBLE BOARD	
D001	8-719-988-42	DIODE GL453S	
IC401	A-7030-638-A	CCD BLOCK ASSY (MN37240FP) (TRV32/TRV52/TRV53/TRV312/TRV512)	
IC401	A-7030-779-A	CCD BLOCK ASSY (ICX207AK-13)(TRV14E)	
IC401	A-7030-782-A	CCD BLOCK ASSY (ICX211AK-43) (TRV24E/TRV44E)	
IC401	A-7030-791-A	CCD BLOCK ASSY (ICX209AK-43) (TRV34/TRV44)	
M901	A-7048-851-A	DRUM BLOCK ASSY (DGH-0D5A-R)(PAL)	
M901	A-7048-849-A	DRUM BLOCK ASSY (DGH-0D4A-R)(NTSC)	
M902	8-835-531-32	MOTOR, DC SCE-0601A/C-NP (CAPSTAN)	
M903	X-3945-401-1	MOTOR ASSY, DC (LOADING)	
S003	1-762-441-21	SWITCH, ROTARY (ZOOM SW)	
S901	1-762-436-15	SWITCH, ROTARY (ENCODER)	

Note : The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	**Note :** Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

Ref. No.	Part No.	Description	Remarks
		ACCESSORIES & PACKING MATERIALS ******************************	
⚠	A-7009-226-A	AC-V16 (US,Canadian)	
⚠	A-7009-227-B	AC-V16 (E,CHINESE)	
⚠	A-7009-230-B	AC-V16 (Australian)	
⚠	A-7009-231-A	AC-V16 (Hong Kong)	
⚠	A-7009-232-A	AC-V16 (Tourist)	
⚠	A-7009-746-A	AC-V17 (AEP)	
⚠	A-7009-747-A	AC-V17 (UK)	
	A-7092-608-A	CASE (N) ASSY, BATTERY (TRV14E:AEP/TRV24E:AEP)	
	A-7092-697-A	CASE (N) ASSY (2), BATTERY (TRV32/TRV52/TRV53/TRV312)	
	1-473-342-11	REMOTE COMMANDER (RMT-713)	
⚠	1-569-008-11	ADAPTOR, CONVERSION 2P (TRV34/TRV44/TRV14E:E/TRV24E:E/TRV44E)	
	1-574-039-21	CORD, CONNECTION (AV)1.5m (TRV32/TRV53/TRV312/TRV14E/TRV24E)	
	1-575-334-11	CORD, CONNECTION (AV STEREO)1.5m (TRV34/TRV44/TRV52/TRV512/TRV44E)	
	1-764-622-11	ADAPTOR, CONVERSION (TRV14E:AEP/TRV24E:AEP)	
	1-769-285-21	CORD, CONNECTION (TRV34/TRV44/TRV52/TRV512/TRV44E)	
	1-770-783-11	CONNECTOR, CONVERSION (TRV14E:AEP/TRV24E:AEP)	
	3-800-844-11	INSTRUCTION (TRV14E:AEP/TRV24E:AEP)	
	3-859-266-11	MANUAL, INSTRUCTION (ENGLISH/RUSSIAN) (TRV14E:E/TRV24E:E)	
	3-859-266-21	MANUAL, INSTRUCTION (FRENCH/GERMAN) (TRV14E:E/TRV24E:E)	
	3-859-266-31	MANUAL, INSTRUCTION (ARABIC/PERSIAN) (TRV14E:E/TRV24E:E)	
	3-859-266-41	MANUAL, INSTRUCTION (CHINESE) (TRV14E:E/TRV24E:E)	
	3-859-595-11	MANUAL, INSTRUCTION (ENGLISH) (TRV32/TRV52/TRV53/TRV312/TRV512)	
	3-859-596-11	MANUAL, INSTRUCTION (ENGLISH/RUSSIAN) (TRV44E)	
	3-859-596-21	MANUAL, INSTRUCTION (FRENCH/GERMAN) (TRV44E)	
	3-859-596-31	MANUAL, INSTRUCTION (ARABIC/PERSIAN) (TRV44E)	
	3-859-596-41	MANUAL, INSTRUCTION (CHINESE) (TRV44E)	
	3-859-596-51	MANUAL, INSTRUCTION (ENGLISH/SPANISH) (TRV34/TRV44)	
	3-859-596-61	MANUAL, INSTRUCTION (CHINESE) (TRV34/TRV44)	
	3-859-598-21	MANUAL, INSTRUCTION (GERMAN/ITALIAN) (TRV14E:AEP/TRV24E:AEP)	
	3-859-598-41	MANUAL, INSTRUCTION (SPANISH/PORTUGUESE) (TRV14E:AEP/TRV24E:AEP)	
	3-976-900-01	CASE (506), SOFT (TRV34PK)	
	3-968-092-01	PAT, PROTECTION (TRV34PK)	
	3-947-969-21	BELT (S), SHOULDER	
*	3-975-401-01	CUSHION (LOWER)	
*	3-975-402-01	CUSHION, ACC	
*	3-976-009-01	INDIVIDUAL CARTON (TRV14E:E)	
*	3-976-009-11	INDIVIDUAL CARTON (TRV14E:AEP)	
*	3-976-009-21	INDIVIDUAL CARTON (TRV24E:AEP)	
*	3-976-009-31	INDIVIDUAL CARTON (TRV24E:E)	
*	3-976-009-61	INDIVIDUAL CARTON (TRV44)	
*	3-976-009-71	INDIVIDUAL CARTON (TRV44E)	
*	3-976-009-81	INDIVIDUAL CARTON (TRV34)	
*	3-976-010-21	INDIVIDUAL CARTON (TRV52)	
*	3-976-010-31	INDIVIDUAL CARTON (TRV512)	
*	3-976-010-41	INDIVIDUAL CARTON (TRV53)	
*	3-976-010-51	INDIVIDUAL CARTON (TRV32/TRV312)	
**	NP-33	BATTERY PACK	
**	IFT-R10	AV CORDLESS IR RECIVER	

NOTE.
**MARK PARTS IS AVAILABLE AS AN OPTIONAL ACCESSORY.

Note :	**Note :**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

SECTION 6
ADJUSTMENTS

When performing adjustments, refer to the layout diagrams for adjustment related parts beginning from page 6-44.

NT :	NTSC MODEL	ST :	STEREO MODEL
PAL :	PAL MODEL	V. LIGHT :	VIDEO LIGHT TYPE
WIDE :	WIDE (16 : 9) MODEL	IR :	INFRARED RADIATION TYPE
DZ :	DIGITAL ZOOM TYPE	S. SHOT :	STEADY SHOT MODEL
MO :	MONO MODEL		

6-1. CAMERA SECTION ADJUSTMENT

1-1. PREPARATIONS BEFORE ADJUSTMENT

1-1-1. List of service tools

Oscilloscope
Adjustment screw driver
Regulated power supply
Color monitor
Vectorscope
Digital voltmeter
Pattern generator

Ref. No.	Name	Parts Code	Usage
J-1	Filter for color temperature correction (C14)	J-6080-058-A	Auto white balance adjustment/check White balance adjustment/check
J-2	ND filter 1.0 ND filter 0.3	J-6080-808-A J-6080-818-A	White balance check White balance check
J-3	Pattern box PTB-450	J-6082-200-A	
J-4	Color chart for pattern box	J-6020-250-A	
J-5	Siemens star	J-6080-875-A	For checking the flange back
J-6	Adjustment remote commander (RM-95 upgraded) Note	J-6082-053-B	
J-7	Multi CPC	J-6082-311-A	For video section adjustment (VC-188 board CN102)
J-8	Measuring pin tool for viewfinder	J-6082-192-A	For adjusting the viewfinder
J-9	IR receiver jig	J-6082-383-A	For IR section adjustment

Note: If the microprocessor IC in the adjusting remote commander is not the new microprocessor (UPD7503G-C56-12), the pages cannot be switched.
In this case, replace with the new microprocessor (8-759-148-35).

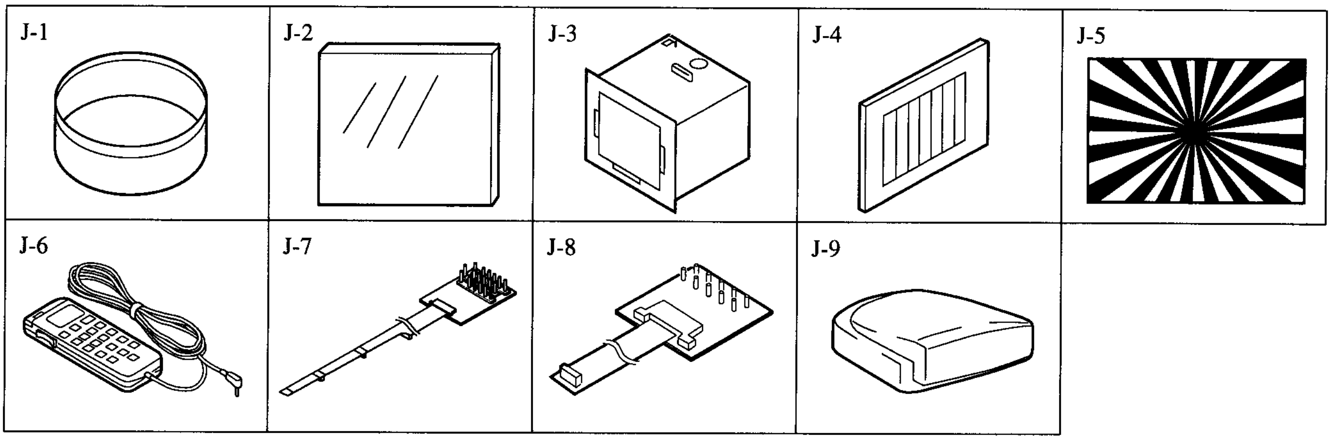


Fig.6-1-1.

1-1-2. Precautions

1. Switch settings

Adjust the switches to the following positions without loading the cassette tape unless otherwise specified.

1) Camera/video power switch
   Operation switch block ·· Camera
2) PROGRAM AE switch ·· AUTO
   (LCD 2.5" SD-24 board : S991
   SD-25 board : S1991
   LCD 3, 3.5" PD-76 board : S991
   PD-77 board : S1991)
3) D ZOOM switch (MENU) ·· OFF
4) STEADY switch (CF-45/46 board S403) ························ OFF

2. Adjustment sequence

Adjust in the given order.

3. Subject

1) Set the camera and pattern box as shown in Fig. 6-1-2.
2) Color bar chart (Standard picture frame)

- Adjust the picture frame as shown in Fig. 6-1-3.
- Adjust camera zooming and direction until the camera output waveform on the oscilloscope shown in Fig. 6-1-3 (a) and the color picture on the monitor TV shown in Fig. 6-1-3 (b) have been acquired.
- Maintain this setup until adjustment is complete.

3) White pattern (Standard picture frame)
   Remove the color bar chart from the pattern box and adjust the camera setup until the white pattern picture frame is the same size and same position as the color bar chart (the standard picture frame).

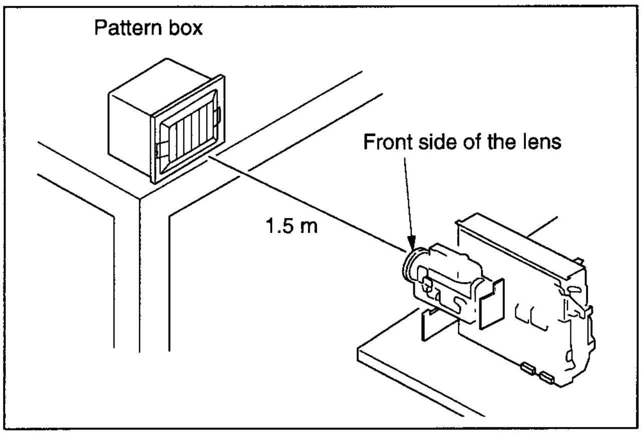

Pattern box
Front side of the lens
1.5 m

Fig. 6-1-2

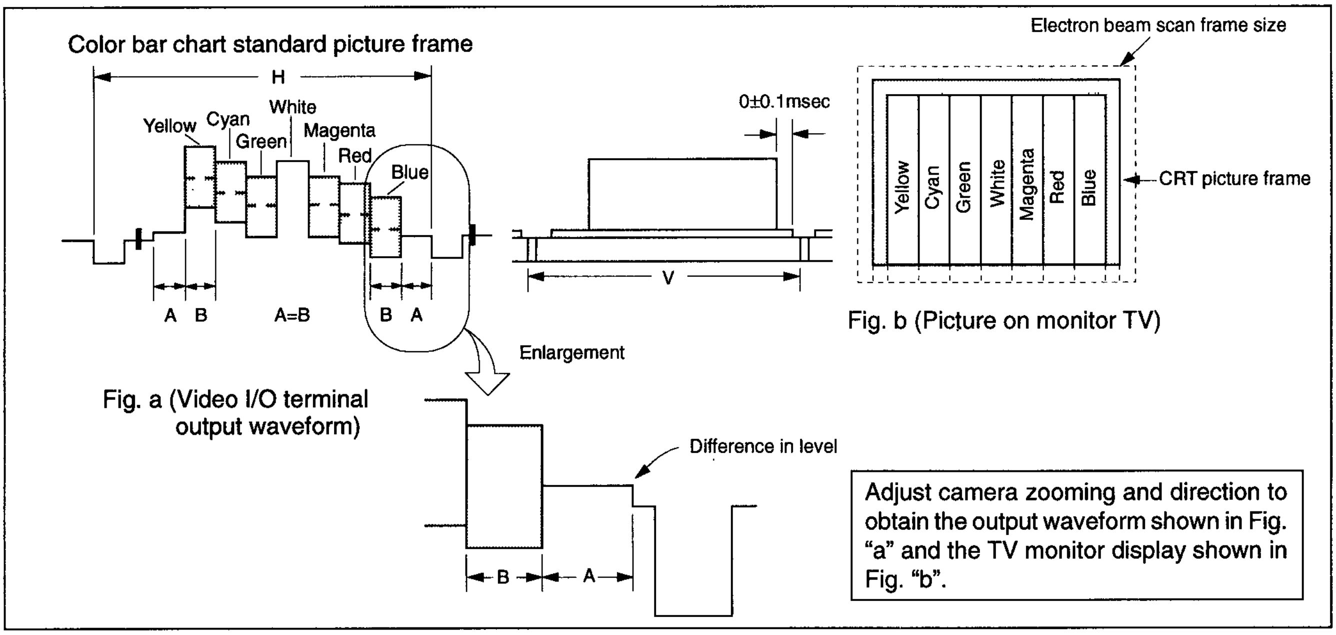

Color bar chart standard picture frame
H
Yellow
Cyan
White
Green
Magenta
Red
Blue
A
B
A=B
B
A
0±0.1msec
V
Enlargement
Difference in level
B
A
Electron beam scan frame size
Yellow
Cyan
Green
White
Magenta
Red
Blue
CRT picture frame

Fig. a (Video I/O terminal output waveform)

Fig. b (Picture on monitor TV)

Adjust camera zooming and direction to obtain the output waveform shown in Fig. "a" and the TV monitor display shown in Fig. "b".

Fig. 6-1-3

4) Chart for flange back adjustment
   Join together a piece of white A0 size paper (1189mm x 841 mm) and a piece of black paper to make the chart shown in Fig. 6-1-4.

Note : Use a non-reflecting and non-glazing vellum paper. The size must be A0 or larger and the joint between the white and black paper must not have any undulations.

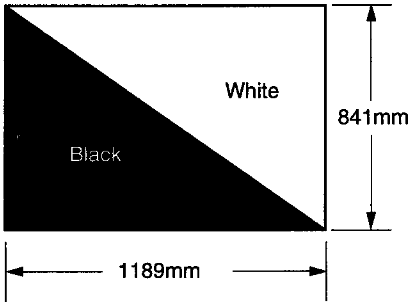

White
Black
841mm
1189mm

Fig. 6-1-4

1-1-3. Preparations

Note 1 : Refer to “2. Disassembly” for details of how to remove the cabinet and the respective boards.

Note 2 : Removal of the lens block and VC-188 board is not necessary if only adjustments are to be made.

1) Connect the adjustment equipment as shown in Fig. 6-1-5.

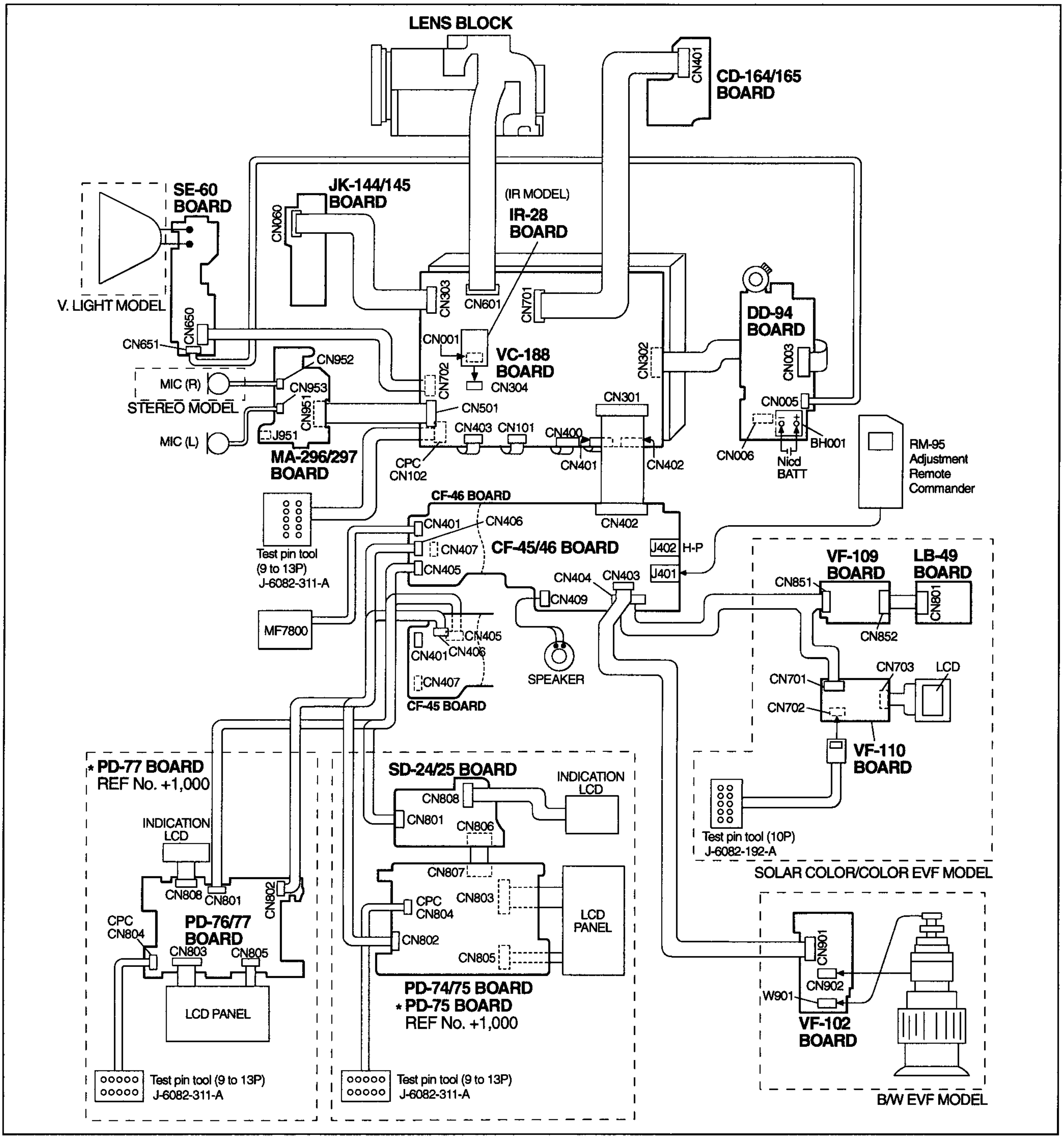

LENS BLOCK
CN401
CD-164/165 BOARD
SE-60 BOARD
V. LIGHT MODEL
JK-144/145 BOARD
CN060
(IR MODEL)
IR-28 BOARD
CN303
CN601
CN701
VC-188 BOARD
CN001
CN304
CN702
CN501
CN302
CN301
CN403 CN101
CN400
CN401
CN402
CPC
CN102
CN650
CN651
CN952
MIC (R)
CN953
STEREO MODEL
CN951
J951
MIC (L)
MA-296/297 BOARD
DD-94 BOARD
CN003
CN005
CN006
BH001
Nicd BATT
RM-95 Adjustment Remote Commander
Test pin tool (9 to 13P) J-6082-311-A
CF-46 BOARD
CN401
CN406
CN402
CN407
CF-45/46 BOARD
J402
H-P
J401
CN405
CN404
CN403
CN409
MF7800
CN405
CN401
CN406
CN407
CF-45 BOARD
SPEAKER
VF-109 BOARD
LB-49 BOARD
CN851
CN801
CN852
CN703
LCD
CN701
CN702
VF-110 BOARD
Test pin tool (10P) J-6082-192-A
SOLAR COLOR/COLOR EVF MODEL
* PD-77 BOARD REF No. +1,000
INDICATION LCD
CN808
CN801
CN802
CPC
CN804
PD-76/77 BOARD
CN803
CN805
LCD PANEL
Test pin tool (9 to 13P) J-6082-311-A
SD-24/25 BOARD
INDICATION LCD
CN808
CN801
CN806
CN807
CPC
CN804
CN803
CN802
CN805
LCD PANEL
PD-74/75 BOARD
* PD-75 BOARD REF No. +1,000
Test pin tool (9 to 13P) J-6082-311-A
CN901
CN902
W901
VF-102 BOARD
B/W EVF MODEL

Fig. 6-1-5.

BOARD TYPE	PD-74	PD-75	PD-76	PD-77	SD-24	SD-25	CF-45	CF-46	MA-296	MA-297	JK-154	JK-155	CD-164	CD-165
2.5 inch LCD	○	—	—	—	○	—	○	—	○	—	○	—	○	—
2.5 inch LCD	—	○	—	—	—	○	○	—	○	—	○	—	○	—
3.5 inch LCD	—	—	○	—	—	—	—	○	—	○	—	○	—	○
3.0 inch LCD	—	—	—	○	—	—	—	○	—	○	—	○	—	○

1-1-4. Adjustment remote commander (RM-95 upgraded)

To perform adjustment, the adjustment data stored in the non-volatile memory must be rewritten using the adjustment remote commander (RM-95 upgraded).

The adjustment remote commander uses the remote commander signal line (LANC) to interactively communicate with the merchandise. The page, address and up/down command data are sent from the adjustment remote commander to the merchandise. In return, the page, address and data are sent to the adjustment remote commander from the merchandise.

1. Using the adjustment remote commander

1) Connect the adjustment remote commander to the LANC terminal (CF-45/46 board J000).
2) Set the NOR-ADJ (or HOLD) switch of the adjustment remote commander to the "ADJ" (or ON) (service) position.
   If the adjustment remote commander is correctly connected, the adjustment remote commander's LED will show the display as shown in Fig. 6-1-6.
3) Bit value discrimination
   It is necessary to discriminate between the bit values with the data displayed on the adjustment remote commander for all following items. Identify whether the bit value is "1" or "0" with the use of the following diagram.

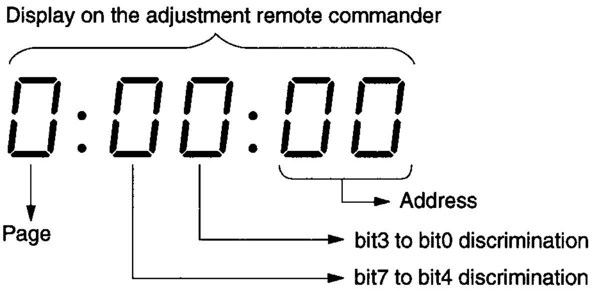

Display on the adjustment remote commander
0:00:00
Page
Address
bit3 to bit0 discrimination
bit7 to bit4 discrimination

Fig. 6-1-6.

	Display on the adjustment remote commander	Bit values			
		bit3 or bit7	bit2 or bit6	bit1 or bit5	bit0 or bit4
	0	0	0	0	0
	1	0	0	0	1
	2	0	0	1	0
	3	0	0	1	1
	4	0	1	0	0
	5	0	1	0	1
	6	0	1	1	0
	7	0	1	1	1
Ⓐ	8	1	0	0	0
	9	1	0	0	1
	A (A)	1	0	1	0
	B (b)	1	0	1	1
	C (C)	1	1	0	0
	D (d)	1	1	0	1
Ⓑ	E (E)	1	1	1	0
	F (F)	1	1	1	1

(Example) If "8E" is displayed on the adjustment remote commander, the bit values for bit7 to bit4 are shown in the 'A' column, and the bit values for bit3 to bit0 are shown in the 'B' column.

4) The adjustment remote controller is operated as follows:

- Changing the page

  The pages increase when the EDIT SEARCH (+) button is pressed and decrease when the EDIT SEARCH (–) button is pressed. Altogether there are 16 pages from page "0" to page "F".

Hexadecimal notation	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
LCD display	0	1	2	3	4	5	6	7	8	9	A	b	C	d	E	F
Decimal notation after conversion	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

- Changing the address

  The address increases when the FF (▶▶) button is pressed, and decreases when the REW (◀◀) button is pressed. Altogether there are 256 addresses from address "00" to address "FF". Some addresses, which are not used during adjustment, do not appear.
- Taking note the already-stored adjustment data

  The previous adjustment can be erased if the adjustment remote commander is incorrectly handled. To prevent this, it is recommended that all the stored adjustment data be noted down on the attached page F address list.
- Changing the data (Data setting)

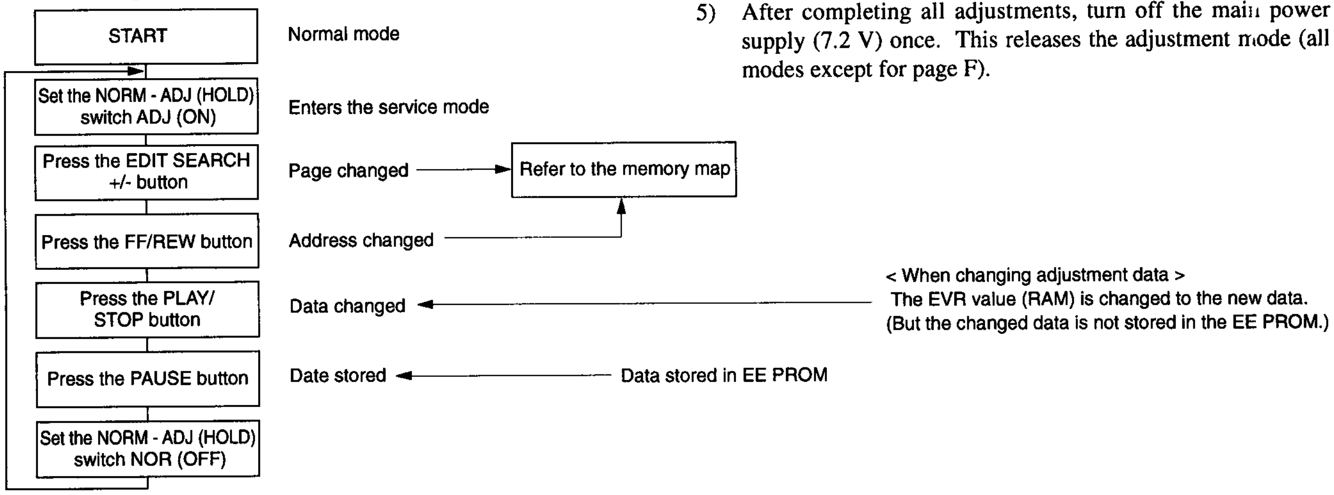
  The data increases when the PLAY (▶) button is pressed, and decreases when the STOP (■) button is pressed. Altogether there 256 data from data "00" to data "FF".
- Storing the data

  Press the PAUSE button to store the adjustment data (page F) into the non-volatile memory.

  (If the PAUSE button is not pressed after completing the adjustment, the new adjustment data will not be stored in the non-volatile memory.)

5) After completing all adjustments, turn off the main power supply (7.2 V) once. This releases the adjustment mode (all modes except for page F).

[Sequence of Service Models Using the Adjustment Remote Commander]


START
Normal mode
Set the NORM - ADJ (HOLD) switch ADJ (ON)
Enters the service mode
Press the EDIT SEARCH +/- button
Page changed
Refer to the memory map
Press the FF/REW button
Address changed
< When changing adjustment data >
The EVR value (RAM) is changed to the new data.
(But the changed data is not stored in the EE PROM.)
Press the PLAY/ STOP button
Data changed
Press the PAUSE button
Date stored
Data stored in EE PROM
Set the NORM - ADJ (HOLD) switch NOR (OFF)

Command Name	Command Function	Normal LANC Command
Page Up	Page + 1	Edit Search +
Page Down	Page – 1	Edit Search –
Direct Page Set	Sets the specified page	Event Clear
Address Up	Address + 1	Fast Forward
Address Down	Address – 1	Rewind
Data Up	Data + 1	Play Back
Data Down	Data – 1	Stop
Store	Stores data in the EE PROM.	Pause

2. Precautions when using the adjustment remote commander

Mishandling of the adjustment remote commander may erase the correct adjustment data which has already been stored in the memory. To prevent this, it is recommended that all adjustment data is noted down on the attached page F address list before starting adjustments in addition to all new adjustment data after the completion of each adjustment step.

1-1-5. Page F Address List

Note 1 : The initial value of the adjustment data is the data immediately after execution of Pages E and F data initialization, and Page F data modification. They are different from the value after all adjustments are executed.

Note 2 : When the arrow mark ← is shown in the memo column of the adjustment data, it indicates that the data of that address is the fixed data (fixed to the initial value).

Note 3 : *: Refer to "5. Page F Data Modification".
The data following the asterisk (*) mark indicates the initial data.

Address	Adjustment Data	
	Initial Value	Memo Column
00	00	←
01	00	←
02	00	←
03	*	←
04	*	←
05	*	←
06	*	←
07	*	←
08	*	←
09	00	←
0A	00	←
0B	00	←
0C	00	←
0D	00	←
0E	00	←
0F	00	←
10	00	←
11	00	←
12	00	←
13	00	←
14	00	←
15	00	←
16	00	←
17	*	←
18	*	←
19	00	←
1A	*	←
1B	*	←
1C	15	←
1D	48	←
1E	03	←
1F	*	←
20	*	←
21	00	←
22	00	
23	0C	
24	00	
25	0C	
26	*	
27	*	
28	*	
29	*	
2A	*	
2B	80	

PAL : 510 → CCD : 510 H type, PAL model
NT : 510 → CCD : 510 H type, NTSC model
PAL : 760 → CCD : 760 H type, PAL model
NT : 760 → CCD : 760 H type, NTSC model

Address	Adjustment Data	
	Initial Value	Memo Column
2C	40	
2D	40	
2E	80	
2F	9E : PAL, B9 : NT	
30	68 : PAL, 53 : NT	
31	7E : PAL, 7D : NT	
32	85	
33	64	
34	80	
35	AD : PAL, 9E : NT	
36	9E : PAL, 8E : NT	
37	87 : PAL, 85 : NT	
38	*	
39	*	
3A	*	
3B	*	
3C	58	
3D	60	
3E	48	
3F	40	
40	80	
41	80	
42	40	
43	00	
44	2D	
45	D3	
46	2D	
47	*	←
48	*	←
49	00	
4A	3C	
4B	00	
4C	3E	
4D	E0	←
4E	8F	
4F	6C	
50	36	
51	3C	
52	A6	
53	1A	
54	15	
55	24	
56	8B	
57	11	

510 H type : TRV14E model
760 H type : EXCEPT TRV14E model

Address	Adjustment Data	
	Initial Value	Memo Column
58	25	
59	19	
5A	80	
5B	80	
5C	80	
5D	80	
5E	80	
5F	*	←
60	*	←
61	*	←
62	*	←
63	*	←
64	*	←
65	*	←
66	*	←
67	80	←
68	*	←
69	*	←
6A	*	←
6B	*	←
6C	*	←
6D	*	←
6E	*	←
6F	*	←
70	*	←
71	*	←
72	80	←
73	80	←
74	*	←
75	1A : PAL/510 17 : NT/510 1A : PAL/760 19 : NT/760	←
76	*	←
77	*	←
78	*	←
79	*	←
7A	A2 : PAL/510 A2 : NT/510 A1 : PAL/760 A2 : NT/760	←
7B	*A3	←
7C	*BA	←
7D	41 : PAL/510 46 : NT/510 20 : PAL/760 20 : NT/760	←
7E	*	←
7F	*	←

Address	Adjustment Data	
	Initial Value	Memo Column
80	*	←
81	*	←
82	*	←
83	*	←
84	*	←
85	*	←
86	83	←
87	67	←
88	*	←
89	5C	←
8A	4A	←
8B	*	←
8C	5C	←
8D	*	←
8E	33	←
8F	* A0 : V. LIGHT/NT A2 : V. LIGHT/PAL	←
90	*	←
91	*	←
92	28 : PAL/510 30 : NT/510 28 : PAL/760 30 : NT/760	←
93	1A : PAL/510 20 : NT/510 1A PAL/760 20 : NT/760	←
94	6A	←
95	58	←
96	*	←
97	33	←
98	04	←
99	04	←
9A	A2	←
9B	88	←
9C	65	←
9D	44	←
9E	55	←
9F	04	←
A0	1F	←
A1	20	
A2	*	←
A3	B0	←
A4~CB		←
CC~E3		←
E4~EF	00	
F0~FF		

1-2. CAMERA SYSTEM ADJUSTMENTS

1. Adjustment points when major parts have been replaced

When the CCD imager or lens block is replaced, adjust the items indicated by O in the following table.

	When the CCD imager is replaced	When the lens block is replaced
HALL adjustment		O
Flange back adjustment	O	O
IRIS IN/OUT adjustment	O	O
MAX GAIN adjustment	O	
Color reproduction adjustment	O	
Auto white balance reference data input	O	
Auto white balance adjustment	O	

3. Preparation for adjustment

Objective: Make sure that the camera can be operated from the LANC line even if the mode control microprocessor's A/D port is left open.

Mode	Any Mode
Measuring Equipment	Remote controller RM-95 upgraded for LANC
Adjustment Page	Page 6, page F
Adjustment Address	00, 02

2. Power supply voltage check (VC-188 board)

Subject	Any subject
Measuring equipment	Digital voltmeter
DIG3V check	
Measurement Point	CN301 ㉓ Pin (CN301 ⑭, ⑮ Pin: MT GND)
Specification Value	3.15 ± 0.1Vdc
MT5V check	
Measurement Point	CN301 ⑯ Pin (CN301 ⑭, ⑮ Pin: VTR GND)
Specification Value	4.70 ± 0.15Vdc
CAM15V check	
Measurement Point	CN701 ⑬ Pin (CN701 ⑯ Pin: GND)
Specification Value	14.95 ± 0.4Vdc
CAM -7.5V check	
Measurement Point	CN701 ⑩ Pin (CN701 ⑯ Pin: GND)
Specification Value	–7.2 ± 0.5Vdc

Check procedure

1) Check that all power supply voltages satisfy the specified value. If not, refer to "Video circuit, Power supply block adjustment".

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Turn the main power switch ON.
2	6	00	01	After setting the data, press the PAUSE button.
3	F	02	21	After setting the data, press the PAUSE button.
4				Turn off the UNREG power supply once, then turn it on.
5	6	00	00	After setting the data, press the PAUSE button.

Note 1 : If data 01 is set to page 6, address 00, the adjustment for page F, address 01 to A3 can also be performed.

Note 2 : When all adjustments of the camera system is completed, set data 00 to the page F, address 02.

4. Initialization of page F data

Note 1 : Execute the initialization of page F only when the non-volatile memory (VC-188 board IC401 EE PROM) is replaced.

Note 2 : If the page F data has been initialized, all adjustment items of the camera section must be executed again.

Initializing procedure:

Order	Page	Address	Data	Procedure
1				Turn OFF and ON the main power supply. (Preparation)
2	6	00	01	After setting the data 01 to the address, press the PAUSE button.
3	6	11		Confirm that the data is 00.
4	6	01	2D	After setting the data, Press the PAUSE button. (Execution of page F data initialization. By this operation, all the data from address 01 to EF are initialized.)
5	6	11		Confirm that the data is 01.

Works required after initialization

Order	Page	Address	Data	Procedure
1	6	01	00	After setting the data, Press the PAUSE button.
2	6	00	00	After setting the data, Press the PAUSE button. (End)
3				Perform the next item “5. Page F Data Modifications”, then execute all adjustment items of the camera section.

Related Adjustments:
All adjustments of camera block.

5. Page F data modification

All the data of page F are automatically initialized if the initialization is executed. However, among the initialized data, the following addresses require manual modification of data after the page F data is initialized.

Modification procedure:

Address	Data												
	TRV32	TRV34	TRV44	TRV52	TRV53	TRV312	TRV512	TRV14E		TRV24E			TRV44E
	—	—	—	—	—	—	—	AEP	EXCEPT AEP	AEP	UK	E/AUS/ HK	—
03	02	03	←	02	←	←	←	04	05	04	←	05	←
04	E9	ED	←	ED	E9	←	ED	99	←	E9	←	←	ED
05	4C	←	←	←	←	←	←	4C	←	←	←	←	←
06	04	←	←	24	2C	04	24	04	←	←	←	←	←
07	20	←	←	←	←	←	←	20	←	←	←	←	←
08	00	←	←	←	←	←	←	04	←	←	←	←	←
17	00	←	←	←	←	03	05	00	←	←	←	←	←
18	32	34	44	52	53	12	←	14	←	24	←	←	44
1A	00	01	01	00	←	←	←	00	←	00	01	00	01
1B	30	80	80	30	←	←	←	15	←	30	←	←	80
1D	31	←	34	←	31	←	34	31	←	22	←	←	34
1F	07	←	←	←	←	←	←	00	←	07	←	←	←
20	04	←	←	←	←	←	←	74	←	04	←	←	←
26	9B	←	←	←	←	←	←	9B	←	←	←	←	←
27	92	←	←	←	←	←	←	92	←	←	←	←	←
28	8F	←	←	←	←	←	←	8F	←	←	←	←	←
29	8A	←	←	←	←	←	←	8A	←	←	←	←	←
2A	84	←	←	←	←	←	←	84	←	←	←	←	←
38	DD	←	←	←	←	←	←	D8	←	←	←	←	←
39	DD	←	←	←	←	←	←	D8	←	←	←	←	←
3A	DD	←	←	←	←	←	←	C6	←	←	←	←	←
3B	DD	←	←	←	←	←	←	C1	←	←	←	←	←
47	FE	FF	←	FE	←	←	←	FF	←	←	←	←	←
48	FC	F6	←	FC	←	←	←	F1	←	←	←	F4	←
5F	CA	←	←	←	←	←	←	AA	←	←	←	←	←
60	AC	←	←	←	←	←	←	8C	←	←	←	←	←
61	99	77	←	77	99	←	77	99	←	←	←	←	77
62	55	←	←	←	←	←	←	55	←	←	←	←	←
63	77	←	←	←	←	←	←	7B	←	←	←	←	←
64	77	←	←	←	←	←	←	78	←	←	←	←	←
65	76	←	←	←	←	←	←	92	←	←	←	←	←
66	76	←	←	←	←	←	←	91	←	←	←	←	←
68	20	←	←	←	←	←	←	20	←	←	←	←	←
69	20	←	←	←	←	←	←	20	←	←	←	←	←
6A	96	←	←	←	←	←	←	96	←	←	←	←	←
6B	96	←	←	←	←	←	←	3C	←	←	←	←	←
6C	6E	←	←	←	←	←	←	6E	←	←	←	←	←
6D	6E	←	←	←	←	←	←	1B	←	←	←	←	←
6E	8D	←	←	←	←	←	←	8A	←	←	←	←	←
6F	8F	←	←	←	←	←	←	80	←	←	←	←	←
70	98	←	←	←	←	←	←	80	←	←	←	←	←
71	80	←	←	←	←	←	←	90	←	←	←	←	←
74	4C	←	←	←	←	←	←	4C	←	←	←	←	←
75	1C	1F	←	1C	←	←	←	21	←	1F	←	←	←
76	42	3A	←	42	←	←	←	46	←	3A	←	←	←
77	36	46	←	36	←	←	←	48	←	46	←	←	←
79	26	←	←	←	←	←	←	26	←	←	←	←	←
7A	BA	←	←	←	←	←	←	B1	←	78	←	←	←
7B	C3	←	←	←	←	←	←	B3	←	C3	←	←	←
7C	B1	←	←	←	←	←	←	81	←	82	←	←	←
7D	20	←	←	←	←	←	←	41	←	20	←	←	←
7E	00	←	←	←	←	←	←	09	←	00	←	←	←
7F	66	←	←	←	←	←	←	66	←	←	←	←	←

Fig 6-1-7 (a)

← : Same data as that of the left column

Address	Data												
	TRV32	TRV34	TRV44	TRV52	TRV53	TRV312	TRV512	TRV14E		TRV24E			TRV44E
	—	—	—	—	—	—	—	AEP	EXCEPT AEP	AEP	UK	E/AUS/HK	—
80	01	←	←	←	←	←	←	05	←	03	←	←	←
81	6B	←	←	←	←	←	←	66	←	6B	←	←	←
82	9F	←	←	←	←	←	←	9F	←	←	←	←	←
83	62	66	←	62	←	←	←	66	←	←	←	←	←
84	6C	←	←	←	←	←	←	66	←	6C	←	←	←
85	57	5C	←	57	←	←	←	59	←	5C	←	←	←
88	64	5D	←	64	←	←	←	5D	←	←	←	←	←
8B	20	←	←	←	←	←	←	20	←	←	←	←	←
8D	3C	←	←	←	←	←	←	3A	←	3C	←	←	←
8F	20	←	←	←	←	←	←	22	←	←	←	←	←
90	1B	←	←	←	←	←	←	1B	←	←	←	←	←
91	D0	F0	←	D0	←	←	←	F0	←	←	←	←	←
92	30	←	←	←	←	←	←	28	←	←	←	←	←
93	20	←	←	←	←	←	←	1A	←	←	←	←	←
96	64	←	←	←	←	←	←	64	←	←	←	←	←
A2	8A	DA	←	8A	←	←	←	8A	←	←	DA	←	←
F0	D1	←	←	←	←	←	←	CE	←	D2	←	←	←
F1	03	03	←	03	←	←	04	02	←	←	←	04	←
F5	B8	←	←	←	←	←	←	A8	←	B8	←	←	←
F6	5E	←	←	←	←	←	←	5E	←	←	←	←	←

Fig 6-1-7 (b)

← : Same data as that of the left column

6. 28MHz crystal oscillator adjustment (VC-188 board)

Purpose : Adjusts 28MHz crystal controlled oscillation for synchronizing clock.

Adjustment error : Loss of synchronization or loss of color.

Subject	Not required
Measurement Point	IC201 (54) pin
Measuring Instrument	Frequency counter
Adjustment Page	F
Adjustment Address	3D
Specification	4433618.75 ± 17Hz (PAL) 3579545 ± 17Hz (NTSC)

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	F	3D		Change the data using PLAY, STOP buttons until the frequency satisfies the specification.
3	F	3D		Press the PAUSE button.
4	6	00	00	After setting the data, press the PAUSE button. (End)

Reference: Conversion between the hexadecimal number and decimal number.

In some adjustment items, data appears in hexadecimal numbers on the DDS display or on the adjustment remote commander. Maintenance engineers are expected to convert the displayed hexadecimal numbers to the corresponding decimal numbers using the following conversion table.

Make a required calculation described in each adjustment item. Then re-convert the result of calculation back from the decimal numbers to the corresponding hexadecimal numbers using the following conversion table.

Hexadecimal-decimal Conversion Table

Lower digit of hexadecimal / Upper digit of hexadecimal	0	1	2	3	4	5	6	7	8	9	A (A)	B (b)	C (c)	② D (d)	E (E)	F (F)
0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
2	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
3	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
4	64	65	66	67	68	69	70	71	72	73	74	77	76	77	78	79
5	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
6	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
7	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
8	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
9	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
A (A)	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
① B (b)	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
C (c)	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
D (d)	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
E (E)	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
F (F)	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255

Note : The characters shown in the parenthesis ( ) shown the display on the adjustment remote commander.
(Example) If the DDS display or the adjustment remote commander shows BD (bd);
Because the upper digit of the adjustment number is B (b), and the lower digit is D (d), the meeting point "189" of ① and ② in the above table is the corresponding decimal number.

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Ref. No.	Part No.	Description			Remarks
		< TRANSISTOR >			
Q802	8-729-420-24	TRANSISTOR	2SB1218A-QRS		
Q805	8-729-230-63	TRANSISTOR	2SC4116-YG (TRV44E)		
Q901	8-729-402-42	TRANSISTOR	UN5213		
Q952	8-729-402-42	TRANSISTOR	UN5213		
Q955	8-729-823-84	TRANSISTOR	FP102		
Q956	8-729-804-41	TRANSISTOR	2SB1122-S		
Q957	8-729-039-43	TRANSISTOR	FP216-TL		
Q958	8-729-420-24	TRANSISTOR	2SB1218A-QRS		
Q959	8-729-403-35	TRANSISTOR	UN5113		
Q960	8-729-039-87	TRANSISTOR	NDS356P		
		< RESISTOR >			
R801	1-216-818-11	METAL CHIP	560	5%	1/16W
R809	1-216-817-11	METAL CHIP	470	5%	1/16W
R811	1-216-818-11	METAL CHIP	560	5%	1/16W
R812	1-216-837-11	METAL CHIP	22K	5%	1/16W
R813	1-216-841-11	METAL CHIP	47K	5%	1/16W
R814	1-218-877-11	METAL GLAZE	18K	0.50%	1/16W
R815	1-216-841-11	METAL CHIP	47K	5%	1/16W
R816	1-216-851-11	METAL CHIP	330K	5%	1/16W
R817	1-216-841-11	METAL CHIP	47K	5%	1/16W
R818	1-216-840-11	METAL CHIP	39K	5%	1/16W
R819	1-216-821-11	METAL CHIP	1K	5%	1/16W
R822	1-216-821-11	METAL CHIP	1K	5%	1/16W
R825	1-219-570-11	METAL GLAZE	10M	5%	1/16W (TRV44E)
R826	1-216-837-11	METAL CHIP	22K	5%	1/16W
R827	1-216-843-11	METAL CHIP	68K	5%	1/16W
R828	1-216-841-11	METAL CHIP	47K	5%	1/16W
R829	1-216-840-11	METAL CHIP	39K	5%	1/16W
R830	1-216-840-11	METAL CHIP	39K	5%	1/16W
R831	1-216-840-11	METAL CHIP	39K	5%	1/16W
R832	1-216-836-11	METAL CHIP	18K	5%	1/16W
R833	1-216-840-11	METAL CHIP	39K	5%	1/16W
R834	1-216-841-11	METAL CHIP	47K	5%	1/16W
R835	1-216-839-11	METAL CHIP	33K	5%	1/16W
R836	1-216-857-11	METAL CHIP	1M	5%	1/16W
R837	1-216-841-11	METAL CHIP	47K	5%	1/16W
R838	1-216-841-11	METAL CHIP	47K	5%	1/16W
R839	1-216-827-11	METAL CHIP	3.3K	5%	1/16W (TRV44E)
R840	1-216-864-11	METAL CHIP	0	5%	1/16W (TRV44E)
R841	1-216-837-11	METAL CHIP	22K	5%	1/16W (TRV44E)
R842	1-216-837-11	METAL CHIP	22K	5%	1/16W
R843	1-216-819-11	METAL CHIP	680	5%	1/16W (TRV44E)
R843	1-216-825-11	METAL CHIP	2.2K	5%	1/16W (TRV34/TRV44/TRV52/TRV512)
R845	1-216-831-11	METAL CHIP	6.8K	5%	1/16W (TRV44E)
R846	1-216-841-11	METAL CHIP	47K	5%	1/16W
R847	1-216-841-11	METAL CHIP	47K	5%	1/16W
R848	1-216-829-11	METAL CHIP	4.7K	5%	1/16W (TRV44E)
R849	1-216-837-11	METAL CHIP	22K	5%	1/16W
R852	1-216-864-11	METAL CHIP	0	5%	1/16W (TRV44E)
R853	1-216-809-11	METAL CHIP	100	5%	1/16W
R854	1-216-809-11	METAL CHIP	100	5%	1/16W
R855	1-216-809-11	METAL CHIP	100	5%	1/16W
R856	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R857	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R858	1-216-829-11	METAL CHIP	4.7K	5%	1/16W (TRV34/TRV44/TRV52/TRV512)
R859	1-216-833-11	METAL CHIP	10K	5%	1/16W (TRV34/TRV44/TRV52/TRV512)
R860	1-216-864-11	METAL CHIP	0	5%	1/16W (TRV44E)
R860	1-216-844-11	METAL CHIP	82K	5%	1/16W (TRV34/TRV44/TRV52/TRV512)
R861	1-216-819-11	METAL CHIP	680	5%	1/16W
R862	1-216-849-11	METAL CHIP	220K	5%	1/16W
R863	1-216-864-11	METAL CHIP	0	5%	1/16W
R900	1-216-857-11	METAL CHIP	1M	5%	1/16W
R901	1-216-843-11	METAL CHIP	68K	5%	1/16W
R902	1-216-837-11	METAL CHIP	22K	5%	1/16W
R903	1-216-841-11	METAL CHIP	47K	5%	1/16W
R904	1-218-891-11	METAL GLAZE	68K	0.50%	1/16W
R905	1-218-883-11	METAL GLAZE	33K	0.50%	1/16W
R906	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R907	1-216-833-11	METAL CHIP	10K	5%	1/16W (TRV44E)
R908	1-216-840-11	METAL CHIP	39K	5%	1/16W
R909	1-216-841-11	METAL CHIP	47K	5%	1/16W
R910	1-216-833-11	METAL CHIP	10K	5%	1/16W
R911	1-216-833-11	METAL CHIP	10K	5%	1/16W (TRV34/TRV44/TRV52/TRV512)
R914	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R916	1-216-843-11	METAL CHIP	68K	5%	1/16W
R917	1-216-843-11	METAL CHIP	68K	5%	1/16W
R919	1-216-841-11	METAL CHIP	47K	5%	1/16W
R920	1-216-841-11	METAL CHIP	47K	5%	1/16W
R922	1-216-857-11	METAL CHIP	1M	5%	1/16W
R923	1-216-837-11	METAL CHIP	22K	5%	1/16W
R925	1-216-833-11	METAL CHIP	10K	5%	1/16W
R926	1-216-857-11	METAL CHIP	1M	5%	1/16W
R928	1-218-889-11	METAL GLAZE	56K	0.50%	1/16W
R929	1-216-828-11	METAL CHIP	3.9K	5%	1/16W (TRV44E)
R929	1-216-831-11	METAL CHIP	6.8K	5%	1/16W (TRV34/TRV44/TRV52/TRV512)
R930	1-216-853-11	METAL CHIP	470K	5%	1/16W
R931	1-216-850-11	METAL CHIP	270K	5%	1/16W
R932	1-216-864-11	METAL CHIP	0	5%	1/16W
R933	1-216-841-11	METAL CHIP	47K	5%	1/16W
R934	1-216-864-11	METAL CHIP	0	5%	1/16W
R947	1-216-817-11	METAL CHIP	470	5%	1/16W
R951	1-216-833-11	METAL CHIP	10K	5%	1/16W
R952	1-216-840-11	METAL CHIP	39K	5%	1/16W
R953	1-216-833-11	METAL CHIP	10K	5%	1/16W
R954	1-218-903-11	METAL GLAZE	220K	0.50%	1/16W
R955	1-218-885-11	METAL GLAZE	39K	0.50%	1/16W
R957	1-218-887-11	METAL GLAZE	47K	0.50%	1/16W
R959	1-218-875-11	METAL GLAZE	15K	0.50%	1/16W
R960	1-218-885-11	METAL GLAZE	39K	0.50%	1/16W
R961	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R962	1-218-879-11	METAL GLAZE	22K	0.50%	1/16W
R963	1-218-871-11	METAL GLAZE	10K	0.50%	1/16W
R964	1-218-889-11	METAL GLAZE	56K	0.50%	1/16W
R965	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R966	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R967	1-216-821-11	METAL CHIP	1K	5%	1/16W
R968	1-218-863-11	METAL GLAZE	4.7K	0.50%	1/16W
R970	1-216-851-11	METAL CHIP	330K	5%	1/16W
R971	1-216-857-11	METAL CHIP	1M	5%	1/16W
R972	1-216-853-11	METAL CHIP	470K	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R973	1-216-851-11	METAL CHIP	330K	5%	1/16W
R974	1-216-817-11	METAL CHIP	470	5%	1/16W
R975	1-216-841-11	METAL CHIP	47K	5%	1/16W
R976	1-216-813-11	METAL CHIP	220	5%	1/16W
R977	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R978	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R979	1-216-810-11	METAL CHIP	120	5%	1/16W
R980	1-216-837-11	METAL CHIP	22K	5%	1/16W
R981	1-216-817-11	METAL CHIP	470	5%	1/16W
R982	1-216-840-11	METAL CHIP	39K	5%	1/16W
R983	1-216-857-11	METAL CHIP	1M	5%	1/16W
R984	1-216-845-11	METAL CHIP	100K	5%	1/16W
R991	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R992	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R993	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R994	1-216-831-11	METAL CHIP	6.8K	5%	1/16W

< SWITCH >

Ref. No.	Part No.	Description
S901	1-572-467-21	SWITCH, PUSH (MIRROR)(1 KEY)
S991	1-762-333-21	SWITCH, TACTILE (PROGRAM AE)
S992	1-771-029-21	SWITCH, TACTILE (VOLUME –)
S993	1-771-029-21	SWITCH, TACTILE (VOLUME +)
S994	1-771-029-21	SWITCH, TACTILE (BRIGHT –)
S995	1-771-029-21	SWITCH, TACTILE (BRIGHT +)

< TRANSFORMER >

Ref. No.	Part No.	Description
T951	1-431-213-11	TRANSFORMER, DC-DC CONVERTER
⚠T952	1-429-507-31	TRANSFORMER, INVERTER

< VIBRATOR >

Ref. No.	Part No.	Description
X801	1-579-661-21	OSCILLATOR, CRYSTAL 4.43MHz(TRV44E)
X801	1-579-466-11	VIBRATOR, CRYSTAL 3.58MHz (TRV34/TRV44/TRV52/TRV512)

A-7093-277-A PD-77 BOARD, COMPLETE
****
(TRV32/TRV34/TRV53/TRV312)

(Ref.No.8,000 Series)

< CAPACITOR >

Ref. No.	Part No.	Description			Remarks
C1804	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C1805	1-162-963-11	CERAMIC CHIP	680PF	10%	50V
C1806	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1808	1-104-752-11	TANTAL. CHIP	33uF	20%	6.3V
C1810	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1811	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C1812	1-104-912-11	TANTAL. CHIP	3.3uF	20%	6.3V
C1813	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1820	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1822	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1823	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C1824	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1826	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1831	1-162-913-11	CERAMIC CHIP	8PF	0.5PF	50V
C1832	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1833	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C1834	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C1835	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1836	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C1837	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C1838	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C1840	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C1900	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1901	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1902	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1903	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1904	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1907	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C1908	1-107-687-11	TANTAL. CHIP	3.3uF	20%	20V
C1909	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1910	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C1911	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C1913	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1914	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C1915	1-162-926-11	CERAMIC CHIP	82PF	5%	50V
C1916	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1917	1-164-363-11	CERAMIC CHIP	560PF	5%	50V
C1918	1-135-177-21	TANTALUM CHIP	1uF	20%	20V
C1919	1-135-177-21	TANTALUM CHIP	1uF	20%	20V
C1920	1-135-212-21	TANTAL. CHIP	2.2uF	20%	25V
C1921	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1922	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1923	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1924	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1951	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C1952	1-164-218-11	CERAMIC CHIP	180PF	0.25PF	50V
C1953	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1954	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1955	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C1956	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C1957	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C1958	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C1959	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C1960	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C1961	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C1962	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C1963	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C1964	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C1965	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C1966	1-164-346-11	CERAMIC CHIP	1uF		16V
C1967	1-104-911-11	TANTAL. CHIP	33uF	20%	10V
C1968	1-164-664-11	CERAMIC CHIP	0.033uF	10%	50V
C1970	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C1971	1-164-346-11	CERAMIC CHIP	1uF		16V
C1972	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C1973	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C1974	1-164-346-11	CERAMIC CHIP	1uF		16V
C1975	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C1976	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
⚠C1977	1-113-521-11	CERAMIC CHIP	12PF	10%	3KV
C1979	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V

Note :	**Note :**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

Ref. No.	Part No.	Description	Remarks
		< CONNECTOR >	
CN1801	1-770-627-21	PIN, CONNECTOR 10P	
CN1802	1-770-629-21	PIN, CONNECTOR 12P	
CN1803	1-573-364-11	CONNECTOR, FFC/FPC 24P	
CN1804	1-764-708-21	CONNECTOR, FFC/FPC (LIF) 9P	
CN1805	1-764-709-11	CONNECTOR, FFC/FPC (LIF) 10P	
CN1808	1-573-929-11	CONNECTOR, FFC/FPC (ZIF) 20P	
		< DIODE >	
D1902	8-713-102-80	DIODE 1T369-01-T8A	
D1903	8-719-422-41	DIODE MA8051-L-TX	
D1904	8-719-421-27	DIODE MA728	
D1905	8-719-061-82	DIODE TLSU1002(TPX1,SONY)	
D1951	8-719-989-33	DIODE FC806	
D1952	8-719-941-86	DIODE DAN202U	
D1953	8-719-404-49	DIODE MA111	
D1954	8-719-404-49	DIODE MA111	
		< IC >	
IC1801	8-759-450-52	IC IR3Y29B4	
IC1802	8-759-355-92	IC AK9813AF-E2	
IC1900	8-759-073-95	IC SED1510F0C-T4	
IC1901	8-759-374-39	IC LZ95N934	
IC1902	8-759-359-49	IC NJM3414AV(TE2)	
IC1951	8-759-060-94	IC MB3785APFV-G-BND-ER	
		< COIL >	
L1803	1-414-755-11	INDUCTOR 22uH	
L1805	1-216-295-91	CONDUCTOR, CHIP (2012)	
L1901	1-414-754-11	INDUCTOR 10uH	
L1902	1-414-754-11	INDUCTOR 10uH	
L1903	1-216-295-91	CONDUCTOR, CHIP (2012)	
L1904	1-412-953-11	INDUCTOR 15uH	
L1951	1-412-056-11	INDUCTOR CHIP 4.7uH	
L1952	1-412-058-11	INDUCTOR CHIP 10uH	
L1953	1-424-674-11	COIL, CHOKE 22uH	
L1954	1-409-536-41	COIL, CHOKE 150uH	
L1955	1-414-757-11	INDUCTOR 100uH	
L1956	1-414-757-11	INDUCTOR 100uH	
L1957	1-414-757-11	INDUCTOR 100uH	
		< TRANSISTOR >	
Q1802	8-729-230-60	TRANSISTOR 2SA1586-YG	
Q1803	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q1901	8-729-402-42	TRANSISTOR UN5213	
Q1904	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q1905	8-729-230-60	TRANSISTOR 2SA1586-YG	
Q1952	8-729-402-42	TRANSISTOR UN5213	
Q1953	8-729-230-60	TRANSISTOR 2SA1586-YG	
Q1953	8-729-420-24	TRANSISTOR 2SB1218A-QRS	
Q1955	8-729-823-84	TRANSISTOR FP102	
Q1956	8-729-804-41	TRANSISTOR 2SB1122-S	
Q1957	8-729-039-43	TRANSISTOR FP216-TL	
Q1958	8-729-230-60	TRANSISTOR 2SA1586-YG	

Ref. No.	Part No.	Description			Remarks
		< RESISTOR >			
R1801	1-216-818-11	METAL CHIP	560	5%	1/16W
R1809	1-216-817-11	METAL CHIP	470	5%	1/16W
R1815	1-216-818-11	METAL CHIP	560	5%	1/16W
R1817	1-216-818-11	METAL CHIP	560	5%	1/16W
R1818	1-216-838-11	METAL CHIP	27K	5%	1/16W
R1819	1-216-845-11	METAL CHIP	100K	5%	1/16W
R1820	1-218-877-11	METAL GLAZE	18K	0.50%	1/16W
R1821	1-216-851-11	METAL CHIP	330K	5%	1/16W
R1823	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1824	1-216-842-11	METAL CHIP	56K	5%	1/16W
R1826	1-216-839-11	METAL CHIP	33K	5%	1/16W
R1827	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1829	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1832	1-216-838-11	METAL CHIP	27K	5%	1/16W
R1833	1-216-834-11	METAL CHIP	12K	5%	1/16W
R1836	1-216-836-11	METAL CHIP	18K	5%	1/16W
R1837	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1838	1-216-842-11	METAL CHIP	56K	5%	1/16W
R1840	1-216-857-11	METAL CHIP	1M	5%	1/16W
R1842	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1843	1-216-839-11	METAL CHIP	33K	5%	1/16W
R1846	1-216-836-11	METAL CHIP	18K	5%	1/16W
R1847	1-216-839-11	METAL CHIP	33K	5%	1/16W
R1848	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R1851	1-216-809-11	METAL CHIP	100	5%	1/16W
R1852	1-216-809-11	METAL CHIP	100	5%	1/16W
R1853	1-216-809-11	METAL CHIP	100	5%	1/16W
R1854	1-216-838-11	METAL CHIP	27K	5%	1/16W
R1855	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R1856	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1857	1-216-843-11	METAL CHIP	68K	5%	1/16W
R1858	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R1859	1-216-819-11	METAL CHIP	680	5%	1/16W
R1860	1-216-849-11	METAL CHIP	220K	5%	1/16W
R1900	1-216-857-11	METAL CHIP	1M	5%	1/16W
R1901	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1903	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1904	1-216-845-11	METAL CHIP	100K	5%	1/16W
R1905	1-218-889-11	METAL GLAZE	56K	0.50%	1/16W
R1907	1-216-844-11	METAL CHIP	82K	5%	1/16W
R1908	1-216-844-11	METAL CHIP	82K	5%	1/16W
R1909	1-216-842-11	METAL CHIP	56K	5%	1/16W
R1910	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1911	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R1913	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1914	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1915	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R1916	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1917	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1918	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1919	1-216-857-11	METAL CHIP	1M	5%	1/16W
R1920	1-216-857-11	METAL CHIP	1M	5%	1/16W
R1921	1-216-843-11	METAL CHIP	68K	5%	1/16W
R1922	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1923	1-216-843-11	METAL CHIP	68K	5%	1/16W
R1924	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1925	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R1926	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1927	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R1928	1-216-833-11	METAL CHIP	10K	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R1929	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1930	1-216-839-11	METAL CHIP	33K	5%	1/16W
R1931	1-216-845-11	METAL CHIP	100K	5%	1/16W
R1932	1-216-842-11	METAL CHIP	56K	5%	1/16W
R1933	1-216-850-11	METAL CHIP	270K	5%	1/16W
R1934	1-218-883-11	METAL GLAZE	33K	0.50%	1/16W
R1935	1-218-879-11	METAL GLAZE	22K	0.50%	1/16W
R1936	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1937	1-218-883-11	METAL GLAZE	33K	0.50%	1/16W
R1938	1-218-879-11	METAL GLAZE	22K	0.50%	1/16W
R1939	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1941	1-216-813-11	METAL CHIP	220	5%	1/16W
R1942	1-216-864-11	METAL CHIP	0	5%	1/16W
R1947	1-216-817-11	METAL CHIP	470	5%	1/16W
R1951	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1952	1-216-840-11	METAL CHIP	39K	5%	1/16W
R1953	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1954	1-218-899-11	METAL GLAZE	150K	0.50%	1/16W
R1955	1-218-887-11	METAL GLAZE	47K	0.50%	1/16W
R1956	1-216-845-11	METAL CHIP	100K	5%	1/16W
R1957	1-218-887-11	METAL GLAZE	47K	0.50%	1/16W
R1958	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1959	1-218-871-11	METAL GLAZE	10K	0.50%	1/16W
R1960	1-218-885-11	METAL GLAZE	39K	0.50%	1/16W
R1961	1-216-864-11	METAL CHIP	0	5%	1/16W
R1962	1-218-879-11	METAL GLAZE	22K	0.50%	1/16W
R1963	1-218-871-11	METAL GLAZE	10K	0.50%	1/16W
R1964	1-218-877-11	METAL GLAZE	18K	0.50%	1/16W
R1965	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R1966	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R1967	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1968	1-218-863-11	METAL GLAZE	4.7K	0.50%	1/16W
R1970	1-216-851-11	METAL CHIP	330K	5%	1/16W
R1971	1-216-857-11	METAL CHIP	1M	5%	1/16W
R1972	1-216-853-11	METAL CHIP	470K	5%	1/16W
R1973	1-216-851-11	METAL CHIP	330K	5%	1/16W
R1974	1-216-817-11	METAL CHIP	470	5%	1/16W
R1975	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1976	1-216-813-11	METAL CHIP	220	5%	1/16W
R1977	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R1978	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R1979	1-216-810-11	METAL CHIP	120	5%	1/16W
R1980	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1981	1-216-817-11	METAL CHIP	470	5%	1/16W
R1985	1-216-864-11	METAL CHIP	0	5%	1/16W
R1990	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R1991	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R1992	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R1993	1-216-831-11	METAL CHIP	6.8K	5%	1/16W

< SWITCH >

Ref. No.	Part No.	Description
S1901	1-572-467-21	SWITCH, PUSH (MIRROR)(1 KEY)
S1991	1-762-333-21	SWITCH, TACTILE (PROGRAM AE)
S1992	1-771-029-21	SWITCH, TACTILE (VOLUME –)
S1993	1-771-029-21	SWITCH, TACTILE (VOLUME +)
S1994	1-771-029-21	SWITCH, TACTILE (BRIGHT –)
S1995	1-771-029-21	SWITCH, TACTILE (BRIGHT +)

< TRANSFORMER >

Ref. No.	Part No.	Description
T1951	1-431-291-11	TRANSFORMER, DC-DC CONVERTER
T1952	1-429-507-31	TRANSFORMER, INVERTER

< VIBRATOR >

Ref. No.	Part No.	Description	Remarks
X1801	1-579-466-11	VIBRATOR, CRYSTAL 4.43MHz	

A-7093-274-A SD-24 BOARD, COMPLETE (TRV24E)
****

(Ref.No.8,000 Series)

< CAPACITOR >

Ref. No.	Part No.	Description			Remarks
C805	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C808	1-104-752-11	TANTAL. CHIP	33uF	20%	6.3V
C809	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C811	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C812	1-104-912-11	TANTAL. CHIP	3.3uF	20%	6.3V
C813	1-135-333-11	TANTAL. CHIP	1uF	20%	16V
C814	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C816	1-162-963-11	CERAMIC CHIP	680PF	10%	50V
C818	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C820	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C822	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C823	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C825	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C826	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C827	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C828	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C829	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C832	1-162-926-11	CERAMIC CHIP	82PF	5%	50V
C835	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C836	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C837	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C838	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C839	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C840	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C841	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C843	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C844	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C846	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C900	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V

< CONNECTOR >

Ref. No.	Part No.	Description
CN801	1-770-627-21	PIN, CONNECTOR 10P
CN806	1-766-346-21	CONNECTOR, FFC/FPC 16P
CN808	1-573-360-21	CONNECTOR, FFC/FPC 20P

< IC >

Ref. No.	Part No.	Description
IC801	8-752-067-59	IC CXA1785R-T4
IC802	8-759-355-92	IC AK9813AF-E2
IC900	8-759-457-42	IC BU9728KV-E2

< COIL >

Ref. No.	Part No.	Description
L803	1-414-755-11	INDUCTOR 22uH
L804	1-412-956-21	INDUCTOR 27uH
L805	1-414-754-11	INDUCTOR 10uH

< TRANSISTOR >

Ref. No.	Part No.	Description
Q802	8-729-420-24	TRANSISTOR 2SB1218A-QRS
Q805	8-729-230-63	TRANSISTOR 2SC4116-YG

SD-24 SD-25

Ref. No.	Part No.	Description			Remarks
		< RESISTOR >			
R803	1-216-818-11	METAL CHIP	560	5%	1/16W
R813	1-216-818-11	METAL CHIP	560	5%	1/16W
R814	1-216-837-11	METAL CHIP	22K	5%	1/16W
R815	1-216-841-11	METAL CHIP	47K	5%	1/16W
R816	1-218-877-11	METAL GLAZE	18K	0.50%	1/16W
R817	1-216-842-11	METAL CHIP	56K	5%	1/16W
R818	1-216-851-11	METAL CHIP	330K	5%	1/16W
R819	1-216-841-11	METAL CHIP	47K	5%	1/16W
R820	1-216-840-11	METAL CHIP	39K	5%	1/16W
R821	1-216-821-11	METAL CHIP	1K	5%	1/16W
R824	1-216-821-11	METAL CHIP	1K	5%	1/16W
R827	1-219-570-11	METAL GLAZE	10M	5%	1/16W
R828	1-216-843-11	METAL CHIP	68K	5%	1/16W
R829	1-216-841-11	METAL CHIP	47K	5%	1/16W
R830	1-216-840-11	METAL CHIP	39K	5%	1/16W
R831	1-216-839-11	METAL CHIP	33K	5%	1/16W
R832	1-216-839-11	METAL CHIP	33K	5%	1/16W
R833	1-216-837-11	METAL CHIP	22K	5%	1/16W
R834	1-216-837-11	METAL CHIP	22K	5%	1/16W
R835	1-216-842-11	METAL CHIP	56K	5%	1/16W
R836	1-216-841-11	METAL CHIP	47K	5%	1/16W
R837	1-216-839-11	METAL CHIP	33K	5%	1/16W
R838	1-216-857-11	METAL CHIP	1M	5%	1/16W
R839	1-216-841-11	METAL CHIP	47K	5%	1/16W
R840	1-216-841-11	METAL CHIP	47K	5%	1/16W
R841	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R842	1-216-864-11	METAL CHIP	0	5%	1/16W
R843	1-216-837-11	METAL CHIP	22K	5%	1/16W
R844	1-216-837-11	METAL CHIP	22K	5%	1/16W
R845	1-216-819-11	METAL CHIP	680	5%	1/16W
R847	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R848	1-216-841-11	METAL CHIP	47K	5%	1/16W
R849	1-216-841-11	METAL CHIP	47K	5%	1/16W
R850	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R851	1-216-837-11	METAL CHIP	22K	5%	1/16W
R854	1-216-864-11	METAL CHIP	0	5%	1/16W
R855	1-216-809-11	METAL CHIP	100	5%	1/16W
R856	1-216-809-11	METAL CHIP	100	5%	1/16W
R857	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R858	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R859	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R862	1-216-864-11	METAL CHIP	0	5%	1/16W
R863	1-216-819-11	METAL CHIP	680	5%	1/16W
R864	1-216-849-11	METAL CHIP	220K	5%	1/16W
R865	1-216-817-11	METAL CHIP	470	5%	1/16W
R900	1-216-853-11	METAL CHIP	470K	5%	1/16W
		< SWITCH >			
S991	1-762-333-21	SWITCH, TACTILE (PROGRAM AE)			
		< VIBRATOR >			
X801	1-579-661-21	OSCILLATOR, CRYSTAL			

Ref. No.	Part No.	Description			Remarks
	A-7093-271-A	SD-25 BOARD, COMPLETE (TRV14E) **********************			
					(Ref.No.8,000 Series)
		< CAPACITOR >			
C1804	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C1805	1-162-963-11	CERAMIC CHIP	680PF	10%	50V
C1806	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1808	1-104-752-11	TANTAL. CHIP	33uF	20%	6.3V
C1810	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1811	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C1812	1-104-912-11	TANTAL. CHIP	3.3uF	20%	6.3V
C1813	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1818	1-162-963-11	CERAMIC CHIP	680PF	10%	50V
C1820	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C1821	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1822	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1823	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C1824	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C1825	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1826	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1828	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1829	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1830	1-162-922-11	CERAMIC CHIP	39PF	5%	50V
C1831	1-162-913-11	CERAMIC CHIP	8PF	0.5PF	50V
C1832	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1833	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C1834	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C1835	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1836	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C1837	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C1838	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C1846	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C1900	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
		< CONNECTOR >			
CN1801	1-770-627-21	PIN, CONNECTOR 10P			
CN1806	1-766-346-21	CONNECTOR, FFC/FPC 16P			
CN1808	1-573-360-21	CONNECTOR, FFC/FPC 20P			
		< DIODE >			
D1801	8-713-102-80	DIODE 1T369-01-T8A			
		< IC >			
IC1801	8-759-450-52	IC IR3Y29B4			
IC1802	8-759-355-92	IC AK9813AF-E2			
IC1900	8-759-073-95	IC SED1510FOC-T4			
		< COIL >			
L1803	1-414-755-11	INDUCTOR 22uH			
L1804	1-412-956-21	INDUCTOR 27uH			
L1805	1-414-754-11	INDUCTOR 10uH			
		< TRANSISTOR >			
Q1802	8-729-420-24	TRANSISTOR 2SB1218A-QRS			
Q1803	8-729-230-63	TRANSISTOR 2SC4116-YG			
Q1805	8-729-230-63	TRANSISTOR 2SC4116-YG			

Ref. No.	Part No.	Description			Remarks
		< RESISTOR >			
R1815	1-216-818-11	METAL CHIP	560	5%	1/16W
R1817	1-216-818-11	METAL CHIP	560	5%	1/16W
R1818	1-216-838-11	METAL CHIP	27K	5%	1/16W
R1819	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1820	1-218-877-11	METAL GLAZE	18K	0.50%	1/16W
R1821	1-216-851-11	METAL CHIP	330K	5%	1/16W
R1823	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1824	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1826	1-216-839-11	METAL CHIP	33K	5%	1/16W
R1827	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1829	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1831	1-219-570-11	METAL GLAZE	10M	5%	1/16W
R1832	1-216-840-11	METAL CHIP	39K	5%	1/16W
R1833	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1835	1-216-840-11	METAL CHIP	39K	5%	1/16W
R1836	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1837	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1838	1-216-839-11	METAL CHIP	33K	5%	1/16W
R1840	1-216-857-11	METAL CHIP	1M	5%	1/16W
R1841	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1842	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1843	1-216-839-11	METAL CHIP	33K	5%	1/16W
R1845	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1846	1-216-836-11	METAL CHIP	18K	5%	1/16W
R1847	1-216-839-11	METAL CHIP	33K	5%	1/16W
R1848	1-216-819-11	METAL CHIP	680	5%	1/16W
R1849	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R1850	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R1851	1-216-809-11	METAL CHIP	100	5%	1/16W
R1852	1-216-809-11	METAL CHIP	100	5%	1/16W
R1853	1-216-809-11	METAL CHIP	100	5%	1/16W
R1855	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R1857	1-216-864-11	METAL CHIP	0	5%	1/16W
R1858	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R1859	1-216-818-11	METAL CHIP	560	5%	1/16W
R1860	1-216-817-11	METAL CHIP	470	5%	1/16W
R1863	1-216-819-11	METAL CHIP	680	5%	1/16W
R1864	1-216-849-11	METAL CHIP	220K	5%	1/16W
		< SWITCH >			
S1991	1-762-333-21	SWITCH, TACTILE (PROGRAM AE)			
		< VIBRATOR >			
X1801	1-579-661-21	OSCILLATOR, CRYSTAL 4.43MHz			

A-7073-145-A SE-60 BOARD, COMPLETE

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(EXCEPT TRV14E/TRV53)

(Ref.No.5,000 Series)

Ref. No.	Part No.	Description			Remarks
		< CAPACITOR >			
C650	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C651	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C652	1-104-908-11	TANTAL. CHIP	47uF	20%	4V
C653	1-104-908-11	TANTAL. CHIP	47uF	20%	4V
C654	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C655	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C656	1-164-299-11	CERAMIC CHIP	0.22uF	10%	25V
C657	1-164-299-11	CERAMIC CHIP	0.22uF	10%	25V
C658	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V
C659	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V
C660	1-128-257-21	ELECT CHIP	33uF	20%	10V
C661	1-128-257-21	ELECT CHIP	33uF	20%	10V
C663	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C664	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C665	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C666	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C667	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C668	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
		< CONNECTOR >			
CN650	1-764-516-21	CONNECTOR, FFC/FPC (ZIF) 6P			
		< IC >			
IC650	8-759-080-34	IC TA75W01FU-TE12R			
IC651	8-759-388-62	IC NJU7062M(TE2)			
IC652	8-759-391-88	IC MC14066BDTR2			
		< COIL >			
L601	1-414-754-11	INDUCTOR 10uH			
		< TRANSISTOR >			
Q650	8-729-402-42	TRANSISTOR UN5213			
		< RESISTOR >			
R650	1-216-837-11	METAL CHIP	22K	5%	1/16W
R651	1-216-837-11	METAL CHIP	22K	5%	1/16W
R652	1-216-837-11	METAL CHIP	22K	5%	1/16W
R653	1-216-837-11	METAL CHIP	22K	5%	1/16W
R654	1-216-837-11	METAL CHIP	22K	5%	1/16W
R655	1-216-837-11	METAL CHIP	22K	5%	1/16W
R656	1-216-803-11	METAL CHIP	33	5%	1/16W
R658	1-216-833-11	METAL CHIP	10K	5%	1/16W
R659	1-216-833-11	METAL CHIP	10K	5%	1/16W
R660	1-218-911-11	METAL GLAZE	470K	0.50%	1/16W
R661	1-218-911-11	METAL GLAZE	470K	0.50%	1/16W
R664	1-216-833-11	METAL CHIP	10K	5%	1/16W
R665	1-216-857-11	METAL CHIP	1M	5%	1/16W
R666	1-216-857-11	METAL CHIP	1M	5%	1/16W
R667	1-216-833-11	METAL CHIP	10K	5%	1/16W
R668	1-216-835-11	METAL CHIP	15K	5%	1/16W
R669	1-216-835-11	METAL CHIP	15K	5%	1/16W
R670	1-216-845-11	METAL CHIP	100K	5%	1/16W
		< SENSOR >			
SE650	1-810-725-81	SENSOR, ANGULAR VELOCITY			
SE651	1-810-725-71	SENSOR, ANGULAR VELOCITY			

Ref. No.	Part No.	Description				Remarks
	A-7093-273-A	VC-188 BOARD, COMPLETE (TRV34/TRV44)				
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	A-7093-275-A	VC-188 BOARD, COMPLETE (TRV32/TRV312)				
		***********************				
	A-7093-282-A	VC-188 BOARD, COMPLETE (TRV52/TRV512)				
		***********************				
	A-7093-268-A	VC-188 BOARD, COMPLETE (TRV14E)				
		***********************				
	A-7093-280-A	VC-188 BOARD, COMPLETE (TRV44E)				
		***********************				
	A-7093-272-A	VC-188 BOARD, COMPLETE (TRV24E)				
		***********************				
	A-7093-283-A	VC-188 BOARD, COMPLETE (TRV53)				
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						(Ref.No.1,000 Series)
		< CAPACITOR >				
C101	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V	(TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
C102	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V	(TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
C103	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V	
C104	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V	
C105	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	(TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
C106	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	(TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
C107	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C108	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C109	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V	
C110	1-162-927-11	CERAMIC CHIP	100PF	5%	50V	
C111	1-164-217-11	CERAMIC CHIP	150PF	5%	50V	
C112	1-162-926-11	CERAMIC CHIP	82PF	5%	50V	
C113	1-162-927-11	CERAMIC CHIP	100PF	5%	50V	
C114	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C115	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	(TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
C116	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	(TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
C117	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C118	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C119	1-164-156-11	CERAMIC CHIP	0.1uF		25V	
C120	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C121	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C122	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C123	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	
C124	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	
C125	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	(TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
C126	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	(TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
C127	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C128	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C129	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	(TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
C130	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C131	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C132	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	
C133	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	
C134	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C136	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C138	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C139	1-162-961-11	CERAMIC CHIP	330PF	10%	50V	
C140	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C141	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C142	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C143	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C144	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C145	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C146	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C147	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C148	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C149	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C150	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V	
C151	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C152	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C155	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C156	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C157	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C158	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C159	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C160	1-162-958-11	CERAMIC CHIP	270PF	5%	50V	
C161	1-162-922-11	CERAMIC CHIP	39PF	5%	50V	
C162	1-162-912-11	CERAMIC CHIP	7PF	0.5PF	50V	(TRV14E/TRV24E)
C162	1-162-917-11	CERAMIC CHIP	15PF	5%	50V	(EXCEPT TRV14E/TRV24E)
C164	1-162-918-11	CERAMIC CHIP	18PF	5%	50V	
C165	1-162-958-11	CERAMIC CHIP	270PF	5%	50V	
C166	1-162-918-11	CERAMIC CHIP	18PF	5%	50V	
C167	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V	
C168	1-162-926-11	CERAMIC CHIP	82PF	5%	50V	(TRV34/TRV44/TRV52/TRV512/TRV44E)
C168	1-162-927-11	CERAMIC CHIP	100PF	5%	50V	(TRV32/TRV53/TRV312/TRV14E/TRV24E)
C169	1-162-923-11	CERAMIC CHIP	47PF	5%	50V	
C170	1-162-958-11	CERAMIC CHIP	270PF	5%	50V	
C171	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C172	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	
C173	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C174	1-162-919-11	CERAMIC CHIP	22PF	5%	50V	
C176	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	
C177	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C178	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C179	1-164-237-11	CERAMIC CHIP	16PF	5%	50V	
C180	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	
C181	1-162-921-11	CERAMIC CHIP	33PF	5%	50V	
C182	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	
C202	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C203	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V	(TRV14E)
C204	1-164-156-11	CERAMIC CHIP	0.1uF		25V	
C205	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	
C206	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	
C207	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C208	1-164-005-11	CERAMIC CHIP	0.47uF		25V	
C209	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	
C210	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C211	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C212	1-164-005-11	CERAMIC CHIP	0.47uF		25V	
C213	1-104-852-11	TANTAL. CHIP	22uF	20%	6.3V	
C214	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C215	1-164-005-11	CERAMIC CHIP	0.47uF		25V	
C216	1-126-246-11	ELECT CHIP	220uF	20%	4V	
C217	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V	
C218	1-162-927-11	CERAMIC CHIP	100PF	5%	50V	

Ref. No.	Part No.	Description			Remarks
C219	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C220	1-162-913-11	CERAMIC CHIP	8PF	0.5PF	50V (TRV34/TRV44/TRV52/TRV53/TRV512)
C220	1-162-912-11	CERAMIC CHIP	7PF	0.5PF	50V (TRV32/TRV312/TRV14E/TRV24E/TRV44E)
C221	1-164-156-11	CERAMIC CHIP	0.1uF		25V (TRV14E/TRV24E/TRV44E)
C223	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C224	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C225	1-162-928-11	CERAMIC CHIP	120PF	5%	50V (TRV14E/TRV24E/TRV44E)
C225	1-164-218-11	CERAMIC CHIP	180PF	0.25PF	50V (TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TR
C226	1-162-957-11	CERAMIC CHIP	220PF	5%	50V (TRV14E/TRV24E/TRV44E)
C227	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C228	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V (TRV24E/TRV44E)
C229	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C230	1-164-392-11	CERAMIC CHIP	390PF	5%	50V
C231	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C232	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C233	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C234	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V (TRV14E/TRV24E)
C234	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V (TRV34/TRV44/TRV52/TRV53/TRV512/TRV44E)
C234	1-109-935-11	TANTAL. CHIP	4.7uF	20%	6.3V (TRV32/TRV312)
C235	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C236	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C237	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V (TRV14E/TRV24E/TRV44E)
C237	1-162-960-11	CERAMIC CHIP	220PF	10%	50V (TRV52/TRV53/TRV512)
C237	1-162-957-11	CERAMIC CHIP	220PF	5%	50V (TRV32/TRV34/TRV44/TRV312)
C238	1-104-912-11	TANTAL. CHIP	3.3uF	20%	6.3V (TRV14E/TRV24E/TRV44E)
C238	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V (TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
C240	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C242	1-104-752-11	TANTAL. CHIP	33uF	20%	6.3V
C243	1-162-916-11	CERAMIC CHIP	12PF	5%	50V (TRV14E/TRV24E/TRV44E)
C243	1-162-925-11	CERAMIC CHIP	68PF	5%	50V (TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
C244	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (TRV14E/TRV24E/TRV44E)
C244	1-164-315-11	CERAMIC CHIP	470PF	5%	50V (TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
C245	1-162-912-11	CERAMIC CHIP	7PF	0.5PF	50V (TRV14E/TRV24E/TRV44E)
C245	1-162-917-11	CERAMIC CHIP	15PF	5%	50V (TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
C246	1-135-073-00	TANTALUM CHIP	0.33uF	10%	35V
C247	1-162-927-11	CERAMIC CHIP	100PF	5%	50V (TRV14E/TRV24E/TRV44E)
C248	1-162-923-11	CERAMIC CHIP	47PF	5%	50V (TRV14E/TRV24E/TRV44E)
C249	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C254	1-164-237-11	CERAMIC CHIP	16PF	5%	50V (TRV14E/TRV24E/TRV44E)
C254	1-162-975-11	CERAMIC CHIP	24PF	5%	50V (TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
C256	1-165-112-11	CERAMIC CHIP	0.33uF		16V
C257	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C259	1-162-927-11	CERAMIC CHIP	100PF	5%	50V (TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
C263	1-162-920-11	CERAMIC CHIP	27PF	5%	50V (TRV14E)

Ref. No.	Part No.	Description			Remarks
C265	1-162-926-11	CERAMIC CHIP	82PF	5%	50V (TRV14E)
C266	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (TRV14E)
C267	1-162-912-11	CERAMIC CHIP	7PF	0.5PF	50V (TRV14E/TRV24E/TRV44E)
C267	1-162-917-11	CERAMIC CHIP	15PF	5%	50V (TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
C268	1-162-913-11	CERAMIC CHIP	8PF	0.5PF	50V (TRV34/TRV44/TRV52/TRV53/TRV512)
C268	1-162-912-11	CERAMIC CHIP	7PF	0.5PF	50V (TRV32/TRV312/TRV14E/TRV24E/TRV44E)
C269	1-162-921-11	CERAMIC CHIP	33PF	5%	50V (TRV14E/TRV24E/TRV44E)
C270	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C271	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C274	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V (TRV52/TRV53/TRV512)
C276	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C277	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C278	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V (TRV14E/TRV24E)
C278	1-109-935-11	TANTAL. CHIP	4.7uF	20%	6.3V (TEXCEPT TRV14E/TRV24E)
C279	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C280	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C302	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C303	1-115-156-11	CERAMIC CHIP	1uF		10V
C304	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C305	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C307	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C309	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C400	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C401	1-162-913-11	CERAMIC CHIP	8PF	0.5PF	50V
C402	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C403	1-162-912-11	CERAMIC CHIP	7PF	0.5PF	50V
C404	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C405	1-162-907-11	CERAMIC CHIP	2PF	0.25PF	50V
C406	1-115-156-11	CERAMIC CHIP	1uF		10V
C407	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C408	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C409	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V (TRV14E/TRV24E/TRV44E)
C411	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C412	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C413	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V (TRV14E/TRV24E/TRV44E)
C414	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C415	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C416	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C417	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C418	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C419	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C420	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C421	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C423	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C424	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C425	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C426	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C427	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C428	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C429	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C430	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C431	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C432	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C433	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C434	1-164-156-11	CERAMIC CHIP	0.1uF		25V

Ref. No.	Part No.	Description			Remarks
C435	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C436	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C437	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C438	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C439	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C441	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C442	1-165-112-11	CERAMIC CHIP	0.33uF		16V
C443	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C444	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C445	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C446	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C447	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C448	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C449	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C450	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C451	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C452	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C453	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C456	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C458	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C459	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C502	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (TRV34/TRV44/TRV52/TRV512/TRV44E)
C504	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V (TRV32/TRV312/TRV14E/TRV24E)
C505	1-104-908-11	TANTAL. CHIP	47uF	20%	4V (TRV32/TRV34/TRV44/TRV52/TRV53/TRV44E)
C507	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V (TRV34/TRV44/TRV52/TRV512/TRV44E)
C508	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V (TRV34/TRV44/TRV52/TRV512/TRV44E)
C509	1-104-847-11	TANTAL. CHIP	22uF	20%	4V (TRV34/TRV44/TRV52/TRV512/TRV44E)
C509	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V (TRV32/TRV312/TRV14E/TRV24E)
C510	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C512	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V (TRV34/TRV44/TRV52/TRV512/TRV44E)
C513	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V (TRV53)
C513	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V (TRV32/TRV312/TRV14E/TRV24E)
C514	1-162-925-11	CERAMIC CHIP	68PF	5%	50V
C515	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V (TRV53)
C515	1-162-960-11	CERAMIC CHIP	220PF	10%	50V (TRV32/TRV312/TRV14E/TRV24E)
C516	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V (TRV34/TRV44/TRV52/TRV512/TRV44E)
C517	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V (TRV34/TRV44/TRV52/TRV512/TRV44E)
C518	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V (TRV34/TRV44/TRV52/TRV512/TRV44E)
C519	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V (TRV53)
C520	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C522	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V (TRV53)
C522	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (TRV34/TRV44/TRV52/TRV512/TRV44E)
C522	1-162-963-11	CERAMIC CHIP	680PF	10%	50V (TRV32/TRV312/TRV14E/TRV24E)
C523	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C524	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V (TRV53)
C525	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V (TRV53)
C529	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C530	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V (TRV34/TRV44/TRV52/TRV512/TRV44E)
C531	1-104-752-11	TANTAL. CHIP	33uF	20%	6.3V (TRV53)
C531	1-104-908-11	TANTAL. CHIP	47uF	20%	4V (TRV32/TRV34/TRV44/TRV52/TRV53/TRV44E)
C532	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C533	1-216-864-11	METAL CHIP	0	5%	1/16W (TRV53)
C533	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (TRV32/TRV34/TRV44/TRV52/TRV53/TRV44E)
C534	1-164-232-11	CERAMIC CHIP	0.01uF		50V (TRV34/TRV44/TRV52/TRV512/TRV44E)
C534	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V (TRV32/TRV312/TRV14E/TRV24E)
C535	1-104-852-11	TANTAL. CHIP	22uF	20%	6.3V (TRV53)
C535	1-104-752-11	TANTAL. CHIP	33uF	20%	6.3V (TRV34/TRV44/TRV52/TRV512/TRV44E)
C535	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V (TRV32/TRV312/TRV14E/TRV24E)
C537	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C539	1-104-847-11	TANTAL. CHIP	22uF	20%	4V (TRV34/TRV44/TRV52/TRV512/TRV44E)
C541	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V (TRV34/TRV44/TRV52/TRV512/TRV44E)
C541	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V (TRV32/TRV312/TRV14E/TRV24E)
C542	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V (TRV34/TRV44/TRV52/TRV512/TRV44E)
C543	1-135-157-21	TANTALUM CHIP	10uF	20%	6.3V (TRV53)
C543	1-104-908-11	TANTAL. CHIP	47uF	20%	4V (TRV34/TRV44/TRV52/TRV512/TRV44E)
C543	1-135-155-21	TANTALUM CHIP	4.7uF	10%	16V (TRV32/TRV312/TRV14E/TRV24E)
C544	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V (TRV34/TRV44/TRV52/TRV512/TRV44E)
C546	1-126-393-11	ELECT CHIP	33uF	20%	10V (TRV53)
C546	1-126-205-11	ELECT CHIP	47uF	20%	6.3V (TRV32/TRV34/TRV44/TRV52/TRV53/TRV44E)
C548	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V (TRV53)
C548	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V (TRV34/TRV44/TRV52/TRV512/TRV44E)
C548	1-107-685-11	TANTAL. CHIP	15uF	20%	6.3V (TRV32/TRV312/TRV14E/TRV24E)
C550	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V (TRV34/TRV44/TRV52/TRV512/TRV44E)
C550	1-104-847-11	TANTAL. CHIP	22uF	20%	4V (TRV32/TRV312/TRV14E/TRV24E)
C551	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (TRV53)
C551	1-216-841-11	METAL CHIP	47K	5%	1/16W (TRV32/TRV312/TRV14E/TRV24E)
C553	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V (TRV34/TRV44/TRV52/TRV512/TRV44E)
C554	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V (TRV32/TRV53/TRV312/TRV14E/TRV24E)
C555	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V (TRV53)
C555	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V (TRV32/TRV312/TRV14E/TRV24E)
C556	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V (TRV34/TRV44/TRV52/TRV512/TRV44E)
C556	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V (TRV32/TRV53/TRV312/TRV14E/TRV24E)
C557	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (TRV34/TRV44/TRV52/TRV53/TRV512/TRV44E)

Ref. No.	Part No.	Description	Remarks
C557	1-115-467-11	CERAMIC CHIP 0.22uF 10% 10V	(TRV32/TRV312/TRV14E/TRV24E)
C558	1-163-019-00	CERAMIC CHIP 0.0068uF 10% 50V	(TRV53)
C558	1-107-823-11	CERAMIC CHIP 0.47uF 10% 16V	(TRV34/TRV44/TRV52/TRV512/TRV44E)
C558	1-109-982-11	CERAMIC CHIP 1uF 10% 10V	(TRV32/TRV312/TRV14E/TRV24E)
C561	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	
C563	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	(TRV34/TRV44/TRV52/TRV512/TRV44E)
C571	1-107-682-11	CERAMIC CHIP 1uF 10% 16V	(TRV14E/TRV24E/TRV44E)
C572	1-164-392-11	CERAMIC CHIP 390PF 5% 50V	(TRV14E/TRV24E/TRV44E)
C573	1-135-091-00	TANTALUM CHIP 1uF 20% 16V	(TRV14E/TRV24E/TRV44E)
C574	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	(TRV14E/TRV24E/TRV44E)
C575	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	(TRV14E/TRV24E/TRV44E)
C576	1-162-957-11	CERAMIC CHIP 220PF 5% 50V	(TRV14E/TRV24E/TRV44E)
C577	1-162-957-11	CERAMIC CHIP 220PF 5% 50V	(TRV14E/TRV24E/TRV44E)
C578	1-107-682-11	CERAMIC CHIP 1uF 10% 16V	(TRV14E/TRV24E/TRV44E)
C602	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C603	1-164-677-11	CERAMIC CHIP 0.033uF 10% 16V	
C604	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C605	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C606	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C607	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C608	1-164-489-11	CERAMIC CHIP 0.22uF 10% 16V	
C609	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C610	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C611	1-135-181-21	TANTALUM CHIP 4.7uF 20% 6.3V	
C612	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C613	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C614	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C615	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C616	1-115-156-11	CERAMIC CHIP 1uF 10V	
C618	1-162-974-11	CERAMIC CHIP 0.01uF 50V	
C619	1-104-752-11	TANTAL. CHIP 33uF 20% 6.3V	
C620	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C621	1-135-149-21	TANTALUM CHIP 2.2uF 20% 10V	
C701	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C704	1-115-156-11	CERAMIC CHIP 1uF 10V	
C705	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C706	1-135-214-21	TANTAL. CHIP 4.7uF 20% 20V	
C712	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C714	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	
C715	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C717	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C718	1-162-913-11	CERAMIC CHIP 8PF 0.5PF 50V	
C719	1-164-489-11	CERAMIC CHIP 0.22uF 10% 16V	
C722	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C725	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C726	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	
C727	1-135-091-00	TANTALUM CHIP 1uF 20% 16V	
C728	1-135-091-00	TANTALUM CHIP 1uF 20% 16V	
C729	1-107-823-11	CERAMIC CHIP 0.47uF 10% 16V	

Ref. No.	Part No.	Description	Remarks
C732	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C734	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C735	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	
C736	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C739	1-162-921-11	CERAMIC CHIP 33PF 5% 50V	(TRV24E/TRV44E)
C739	1-162-919-11	CERAMIC CHIP 22PF 5% 50V	(TRV14E)
C740	1-164-315-11	CERAMIC CHIP 470PF 2% 50V	(TRV14E/TRV24E/TRV44E)
C741	1-107-688-11	TANTAL. CHIP 1.5uF 20% 10V	(TRV14E/TRV24E/TRV44E)
C742	1-164-156-11	CERAMIC CHIP 0.1uF 25V	(TRV14E/TRV24E/TRV44E)
C745	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C746	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C750	1-115-156-11	CERAMIC CHIP 1uF 10V	
C751	1-164-346-11	CERAMIC CHIP 1uF 16V	
C752	1-162-919-11	CERAMIC CHIP 22PF 5% 50V	
C753	1-162-919-11	CERAMIC CHIP 22PF 5% 50V	
C754	1-162-912-11	CERAMIC CHIP 7PF 0.5PF 50V	
C755	1-164-346-11	CERAMIC CHIP 1uF 16V	
C757	1-135-181-21	TANTALUM CHIP 4.7uF 20% 6.3V	
C758	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C759	1-115-156-11	CERAMIC CHIP 1uF 10V	
C764	1-162-928-11	CERAMIC CHIP 120PF 5% 50V	(TRV34/TRV44/TRV52/TRV53/TRV512)
C764	1-162-927-11	CERAMIC CHIP 100PF 5% 50V	(TRV32/TRV312)
C765	1-162-919-11	CERAMIC CHIP 22PF 5% 50V	(TRV34/TRV44/TRV52/TRV53/TRV512)
C765	1-162-918-11	CERAMIC CHIP 18PF 5% 50V	(TRV32/TRV312)
C770	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	(EXCEPT TRV14E)
C771	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	(EXCEPT TRV14E)
C772	1-135-181-21	TANTALUM CHIP 4.7uF 20% 6.3V	
C773	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C774	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C775	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C776	1-164-156-11	CERAMIC CHIP 0.1uF 25V	(TRV14E)
C776	1-216-818-11	METAL CHIP 560 5% 1/16W	(EXCEPT TRV14E)
C777	1-164-156-11	CERAMIC CHIP 0.1uF 25V	(TRV14E)
C777	1-216-818-11	METAL CHIP 560 5% 1/16W	(EXCEPT TRV14E)
C778	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	(EXCEPT TRV14E)
C779	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	(EXCEPT TRV14E)
C780	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	(EXCEPT TRV14E)
C781	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	(EXCEPT TRV14E)
C782	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
		< CONNECTOR >	
CN101	1-766-346-21	CONNECTOR, FFC/FPC 16P	
CN102	1-766-869-21	CONNECTOR, FFC/FPC 9P	(TRV34/TRV44/TRV52/TRV53/TRV512/TRV44E)
CN102	1-764-708-21	CONNECTOR, FFC/FPC (LIF) 9P	(TRV32/TRV312/TRV14E/TRV24E)
CN301	1-774-054-21	CONNECTOR, FFC/FPC (ZIF) 45P	
CN302	1-691-931-11	CONNECTOR, BOARD TO BOARD 38P	
CN303	1-766-644-21	CONNECTOR, FFC/FPC 8P	
CN304	1-573-522-21	CONNECTOR, BOARD TO BOARD 14P	(TRV52/TRV53/TRV512)

Ref. No.	Part No.	Description	Remarks
CN400	1-774-635-21	CONNECTOR, FFC/FPC 10P	
CN401	1-766-342-21	CONNECTOR, FFC/FPC 12P	
CN402	1-774-639-21	CONNECTOR, FFC/FPC 15P	
CN403	1-766-644-21	CONNECTOR, FFC/FPC 8P	
CN501	1-750-076-21	CONNECTOR, FFC/FPC 12P	
CN601	1-764-530-21	CONNECTOR, FFC/FPC (ZIF) 23P	
CN701	1-750-630-11	CONNECTOR, FFC/FPC (ZIF) 16P	
CN702	1-766-336-21	CONNECTOR, FFC/FPC 6P (EXCEPT TRV14E)	
		< DIODE >	
D101	8-719-404-49	DIODE MA111-TX	
D102	8-719-820-41	DIODE 1SS302	
D103	8-719-059-51	DIODE MA3J142E0LSO	
D201	8-719-059-51	DIODE MA3J142E0LSO	
D202	8-719-404-49	DIODE MA111-TX (TRV14E/TRV24E/TRV44E)	
D203	8-719-404-49	DIODE MA111	
D204	8-719-059-51	DIODE MA3J142E0LSO	
D301	8-719-061-81	DIODE TLYU1002(TPX1,SONY)	
D302	8-719-061-81	DIODE TLYU1002(TPX1,SONY)	
D303	8-719-061-81	DIODE TLYU1002(TPX1,SONY)	
D304	8-719-061-81	DIODE TLYU1002(TPX1,SONY)	
D305	8-719-061-81	DIODE TLYU1002(TPX1,SONY)	
D306	8-719-061-82	DIODE TLSU1002(TPX1,SONY)	(TRV52/TRV53/TRV512)
D307	8-719-404-49	DIODE MA111	
D705	8-719-002-81	DIODE 1T363-01-T8A	(TRV14E/TRV24E/TRV44E)
D706	8-713-102-28	DIODE 1T379-04-T8A	
		< FERRITE BEAD >	
FB301	1-414-385-11	INDUCTOR, FERRITE BEAD	
FB601	1-414-228-11	INDUCTOR, FERRITE BEAD	
FB701	1-500-284-21	INDUCTOR, FERRITE BEAD	
FB702	1-414-228-11	INDUCTOR, FERRITE BEAD	(TRV32/TRV52/TRV53/TRV312/TRV512)
FB703	1-414-228-11	INDUCTOR, FERRITE BEAD	
FB704	1-500-284-21	INDUCTOR, FERRITE BEAD	
FB705	1-414-228-11	INDUCTOR, FERRITE BEAD	
FB706	1-414-228-11	INDUCTOR, FERRITE BEAD	
FB707	1-414-228-11	INDUCTOR, FERRITE BEAD	
FB708	1-414-228-11	INDUCTOR, FERRITE BEAD	
		< IC >	
IC101	8-752-071-15	IC CXA1702AR-T6	
IC201	8-752-075-45	IC CXA2051R-T6	
IC202	8-759-035-90	IC SC7S02F	
IC205	8-759-295-66	IC BA7653AF-E2	
IC302	8-759-290-12	IC M62370GP-650D	
IC303	8-759-449-47	IC uPD6466GS-610-GLG-E2	
IC304	8-759-391-88	IC MC14066BDTR2	
IC400	8-752-880-05	IC CXP87460-011R	
IC401	8-759-445-93	IC AK6440AM-E2 (TRV14E)	
IC401	8-759-365-53	IC S-29L353AFS-TB (EXCEPT TRV14E)	
IC402	8-752-078-49	IC CXA1814Q-T4	
IC403	8-759-327-67	IC LB1950V-TLM	
IC404	8-759-327-62	IC TA8482FN-EL (TRV14E/TRV24E/TRV44E)	
IC404	8-759-327-61	IC LB8112V-TLM	(TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)

Ref. No.	Part No.	Description	Remarks
IC405	8-759-234-20	IC TC7S08F	
IC501	8-759-368-09	IC LA7457W-TBM (TRV53)	
IC501	8-759-368-08	IC AN2980FH-EB	(TRV34/TRV44/TRV52/TRV512/TRV44E)
IC501	8-752-075-66	IC CXA1837R-T6	(TRV32/TRV312/TRV14E/TRV24E)
IC570	8-759-334-09	IC CXA2003N-T4 (TRV14E/TRV24E/TRV44E)	
IC601	8-759-337-40	IC NJM2904V(TE2)	
IC602	8-759-444-87	IC NJM324V(TE2)	
IC603	8-759-351-46	IC MPC17A34RVMEL	
IC604	8-759-371-59	IC CF45853APW-E10	
IC702	8-752-384-74	IC CXD2486R-T4	
IC703	8-752-078-86	IC CXA2056Q-T4	
IC704	8-759-459-28	IC ADS932Y/T2	
IC705	8-752-374-02	IC CXD2418R-T4	
IC706	8-752-379-66	IC CXD2180AR-T6 (TRV14E)	
IC706	8-759-440-38	IC CXD8562AR-TEB (EXCEPT TRV14E)	
IC707	8-759-446-62	IC HG51D267FGTL (EXCEPT TRV14E)	
IC708	8-752-879-49	IC CXP81120-034R (EXCEPT TRV14E)	
IC709	8-759-198-34	IC TA75S558F(TE85R)	(TRV14E/TRV24E/TRV44E)
		< COIL >	
L101	1-412-066-21	INDUCTOR CHIP 220uH	
L102	1-412-185-11	INDUCTOR 12uH	
L103	1-412-066-21	INDUCTOR CHIP 220uH	
L104	1-414-754-11	INDUCTOR 10uH	
L105	1-412-950-11	INDUCTOR 8.2uH	
L106	1-412-957-11	INDUCTOR 33uH	
L107	1-410-658-31	INDUCTOR CHIP 220uH	
L108	1-412-280-31	INDUCTOR 330uH	
L109	1-412-282-41	INDUCTOR 470uH	
L110	1-410-655-31	INDUCTOR CHIP 120uH	
L111	1-412-355-41	INDUCTOR 180uH	
L112	1-412-355-41	INDUCTOR 180uH	
L113	1-412-957-11	INDUCTOR 33uH	
L114	1-414-373-31	INDUCTOR CHIP 10uH	
L115	1-414-754-11	INDUCTOR 10uH	
L202	1-414-757-11	INDUCTOR 100uH	
L203	1-412-962-11	INDUCTOR 82uH	
L205	1-412-955-11	INDUCTOR 22uH	(TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
L207	1-412-962-11	INDUCTOR 82uH	
L210	1-412-951-11	INDUCTOR 10uH (TRV14E)	
L211	1-414-754-11	INDUCTOR 10uH	
L212	1-414-754-11	INDUCTOR 10uH	(TRV34/TRV44/TRV52/TRV53/TRV512/TRV44E)
L212	1-414-755-11	INDUCTOR 22uH	(TRV32/TRV312/TRV14E/TRV24E)
L213	1-414-196-41	INDUCTOR 47uH (TRV14E/TRV24E/TRV44E)	
L213	1-414-170-41	INDUCTOR 100uH	(TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
L214	1-414-753-91	INDUCTOR 4.7uH	
L215	1-412-962-11	INDUCTOR 82uH	
L216	1-414-170-41	INDUCTOR 100uH (TRV14E/TRV24E/TRV44E)	
L301	1-414-754-11	INDUCTOR 10uH	
L303	1-414-754-11	INDUCTOR 10uH	
L304	1-414-754-11	INDUCTOR 10uH	
L305	1-411-165-21	COIL, OSC	
L400	1-414-754-11	INDUCTOR 10uH	
L401	1-412-959-11	INDUCTOR 47uH	
L570	1-414-754-11	INDUCTOR 10uH (TRV14E/TRV24E/TRV44E)	
L601	1-414-398-11	INDUCTOR 10uH	
L602	1-414-754-11	INDUCTOR 10uH	

Ref. No.	Part No.	Description	Remarks
L706	1-414-754-11	INDUCTOR 10uH	
L715	1-414-754-11	INDUCTOR 10uH	
L717	1-414-754-11	INDUCTOR 10uH	
L751	1-414-754-11	INDUCTOR 10uH	
L752	1-412-959-11	INDUCTOR 47uH	(TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
L753	1-412-959-11	INDUCTOR 47uH	(TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
L754	1-414-754-11	INDUCTOR 10uH (EXCEPT TRV14E)	
		< TRANSISTOR >	
Q101	8-729-824-02	TRANSISTOR 2SA1838	
Q102	8-729-420-24	TRANSISTOR 2SB1218A-QRS	
Q103	8-729-823-86	TRANSISTOR 2SA1745	(TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
Q104	8-729-823-86	TRANSISTOR 2SA1745	
Q105	8-729-823-86	TRANSISTOR 2SA1745	
Q106	8-729-823-86	TRANSISTOR 2SA1745	(TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
Q107	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q108	8-729-402-42	TRANSISTOR UN5213	(TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
Q109	8-729-402-42	TRANSISTOR UN5213	(TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
Q110	8-729-402-42	TRANSISTOR UN5213	
Q111	8-729-402-42	TRANSISTOR UN5213	
Q112	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q113	8-729-402-42	TRANSISTOR UN5213-TX	(TRV14E/TRV24E/TRV44E)
Q114	8-729-402-42	TRANSISTOR UN5213	
Q115	8-729-402-42	TRANSISTOR UN5213	
Q116	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q117	8-729-420-24	TRANSISTOR 2SB1218A-QRS	
Q118	8-729-012-50	TRANSISTOR 2SC4400-3/4/5	
Q119	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q121	8-729-015-74	TRANSISTOR UN5111-TX	
Q122	8-729-117-73	TRANSISTOR 2SC4178-F14	
Q123	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q202	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q206	8-729-420-24	TRANSISTOR 2SB1218A-QRS	
Q208	8-729-402-42	TRANSISTOR UN5213	
Q211	8-729-230-60	TRANSISTOR 2SA1586-YG (TRV32/TRV312)	
Q211	8-729-420-24	TRANSISTOR 2SB1218A-QRS	(TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
Q213	8-729-402-42	TRANSISTOR UN5213	
Q214	8-729-420-24	TRANSISTOR 2SB1218A-QRS	
Q215	8-729-013-15	TRANSISTOR 2SC4909-TL	
Q216	8-729-420-20	TRANSISTOR XN4312-TW	(TRV14E/TRV24E/TRV44E)
Q217	8-729-420-12	TRANSISTOR XN4213	
Q218	8-729-420-24	TRANSISTOR 2SB1218A-QRS	
Q219	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q221	8-729-402-42	TRANSISTOR UN5213	
Q222	8-729-402-42	TRANSISTOR UN5213	(TRV32/TRV312/TRV14E/TRV24E/TRV44E)
Q223	8-729-230-63	TRANSISTOR 2SC4116-YG (TRV14E)	
Q224	8-729-420-24	TRANSISTOR 2SB1218A-QRS (TRV14E)	
Q226	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q227	8-729-013-15	TRANSISTOR 2SC4909-TL	
Q228	8-729-403-35	TRANSISTOR UN5113	
Q229	8-729-402-42	TRANSISTOR UN5213	
Q230	8-729-420-24	TRANSISTOR 2SB1218A-QRS	(TRV52/TRV53/TRV512)
Q231	8-729-420-24	TRANSISTOR 2SB1218A-QRS	
Q232	8-729-012-50	TRANSISTOR 2SC4400-3/4/5	
Q301	8-729-807-86	TRANSISTOR 2SB1295-UL5	
Q302	8-729-402-42	TRANSISTOR UN5213	
Q303	8-729-402-42	TRANSISTOR UN5213	(TRV52/TRV53/TRV512)
Q304	8-729-101-07	TRANSISTOR 2SB798-DL	
Q305	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q400	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q401	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q501	8-729-420-53	TRANSISTOR UN5115	
Q506	8-729-421-26	TRANSISTOR UN5214	(TRV34/TRV44/TRV52/TRV512/TRV44E)
Q507	8-729-421-26	TRANSISTOR UN5214	
Q570	8-729-402-42	TRANSISTOR UN5213	(TRV14E/TRV24E/TRV44E)
Q601	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q602	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q603	8-729-013-31	TRANSISTOR 2SA1588-OY-TE85L	
Q703	8-729-402-42	TRANSISTOR UN5213	
Q704	8-729-403-35	TRANSISTOR UN5113	
Q705	8-729-403-35	TRANSISTOR UN5113	
Q706	8-729-402-42	TRANSISTOR UN5213	
Q750	8-729-420-24	TRANSISTOR 2SB1218A-QRS	
Q752	8-729-420-24	TRANSISTOR 2SB1218A-QRS	
Q753	8-729-013-15	TRANSISTOR 2SC4909-TL	(TRV32/TRV34
Q754	8-729-013-15	TRANSISTOR 2SC4909-TL	(TRV32/TRV34
		< RESISTOR >	
R061	1-216-830-11	METAL CHIP 5.6K 5% 1/16W	
R062	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R063	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R064	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R065	1-216-832-11	METAL CHIP 8.2K 5% 1/16W	
R101	1-216-803-11	METAL CHIP 33 5% 1/16W	
R102	1-216-818-11	METAL CHIP 560 5% 1/16W	
R103	1-216-814-11	METAL CHIP 270 5% 1/16W	
R104	1-216-813-11	METAL CHIP 220 5% 1/16W	
R105	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R106	1-216-828-11	METAL CHIP 3.9K 5% 1/16W	(TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
R107	1-216-828-11	METAL CHIP 3.9K 5% 1/16W	
R108	1-216-828-11	METAL CHIP 3.9K 5% 1/16W	
R109	1-216-839-11	METAL CHIP 33K 5% 1/16W	
R110	1-216-828-11	METAL CHIP 3.9K 5% 1/16W	(TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
R111	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R112	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R113	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	(TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
R114	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	(TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
R115	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R116	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R117	1-216-831-11	METAL CHIP 6.8K 5% 1/16W	
R118	1-216-838-11	METAL CHIP 27K 5% 1/16W	
R119	1-216-818-11	METAL CHIP 560 5% 1/16W	
R120	1-216-818-11	METAL CHIP 560 5% 1/16W	
R121	1-216-831-11	METAL CHIP 6.8K 5% 1/16W	
R122	1-216-838-11	METAL CHIP 27K 5% 1/16W	
R123	1-216-818-11	METAL CHIP 560 5% 1/16W	
R124	1-216-818-11	METAL CHIP 560 5% 1/16W	
R125	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R129	1-216-864-11	METAL CHIP 0 5% 1/16W	

Ref. No.	Part No.	Description			Remarks
R132	1-216-797-11	METAL CHIP	10	5%	1/16W
R133	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R134	1-218-875-11	METAL GLAZE	15K	0.50%	1/16W
R135	1-216-821-11	METAL CHIP	1K	5%	1/16W (TRV14E/TRV24E/TRV44E)
R136	1-216-836-11	METAL CHIP	18K	5%	1/16W
R137	1-216-833-11	METAL CHIP	10K	5%	1/16W
R138	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R139	1-216-864-11	METAL CHIP	0	5%	1/16W (TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
R140	1-216-833-11	METAL CHIP	10K	5%	1/16W
R141	1-216-832-11	METAL CHIP	8.2K	5%	1/16W (TRV14E/TRV24E/TRV44E)
R142	1-216-836-11	METAL CHIP	18K	5%	1/16W
R145	1-216-847-11	METAL CHIP	150K	5%	1/16W
R146	1-216-852-11	METAL CHIP	390K	5%	1/16W
R147	1-216-853-11	METAL CHIP	470K	5%	1/16W
R150	1-216-864-11	METAL CHIP	0	5%	1/16W
R152	1-216-833-11	METAL CHIP	10K	5%	1/16W
R153	1-216-839-11	METAL CHIP	33K	5%	1/16W
R154	1-216-821-11	METAL CHIP	1K	5%	1/16W
R155	1-216-817-11	METAL CHIP	470	5%	1/16W
R156	1-216-818-11	METAL CHIP	560	5%	1/16W
R157	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R158	1-216-809-11	METAL CHIP	100	5%	1/16W
R159	1-216-818-11	METAL CHIP	560	5%	1/16W
R160	1-216-818-11	METAL CHIP	560	5%	1/16W
R163	1-216-813-11	METAL CHIP	220	5%	1/16W
R164	1-216-818-11	METAL CHIP	560	5%	1/16W
R165	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R167	1-216-818-11	METAL CHIP	560	5%	1/16W
R168	1-216-818-11	METAL CHIP	560	5%	1/16W
R169	1-216-816-11	METAL CHIP	390	5%	1/16W
R170	1-216-821-11	METAL CHIP	1K	5%	1/16W
R171	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R172	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R174	1-216-864-11	METAL CHIP	0	5%	1/16W
R175	1-216-834-11	METAL CHIP	12K	5%	1/16W
R176	1-216-833-11	METAL CHIP	10K	5%	1/16W
R177	1-216-817-11	METAL CHIP	470	5%	1/16W
R178	1-216-807-11	METAL CHIP	68	5%	1/16W
R179	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R180	1-216-817-11	METAL CHIP	470	5%	1/16W
R181	1-216-819-11	METAL CHIP	680	5%	1/16W
R182	1-216-821-11	METAL CHIP	1K	5%	1/16W
R183	1-216-836-11	METAL CHIP	18K	5%	1/16W
R184	1-216-836-11	METAL CHIP	18K	5%	1/16W
R185	1-216-821-11	METAL CHIP	1K	5%	1/16W
R186	1-216-804-11	METAL CHIP	39	5%	1/16W (TRV14E/TRV24E/TRV44E)
R186	1-216-803-11	METAL CHIP	33	5%	1/16W (TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
R187	1-216-824-11	METAL CHIP	1.8K	5%	1/16W (TRV14E/TRV24E/TRV44E)
R187	1-216-823-11	METAL CHIP	1.5K	5%	1/16W (TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
R189	1-216-864-11	METAL CHIP	0	5%	1/16W (TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
R190	1-216-864-11	METAL CHIP	0	5%	1/16W
R191	1-216-833-11	METAL CHIP	10K	5%	1/16W
R192	1-216-833-11	METAL CHIP	10K	5%	1/16W
R193	1-216-864-11	METAL CHIP	0	5%	1/16W
R201	1-216-833-11	METAL CHIP	10K	5%	1/16W
R202	1-216-836-11	METAL CHIP	18K	5%	1/16W (TRV14E)
R202	1-216-864-11	METAL CHIP	0	5%	1/16W (EXCEPT TRV14E)
R203	1-216-832-11	METAL CHIP	8.2K	5%	1/16W (TRV14E)
R204	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R205	1-216-841-11	METAL CHIP	47K	5%	1/16W (TRV52/TRV53/TRV512)
R206	1-216-815-11	METAL CHIP	330	5%	1/16W (TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
R207	1-216-841-11	METAL CHIP	47K	5%	1/16W (TRV52/TRV53/TRV512)
R208	1-216-825-11	METAL CHIP	2.2K	5%	1/16W (TRV52/TRV53/TRV512)
R210	1-216-864-11	METAL CHIP	0	5%	1/16W (EXCEPT TRV24E/TRV44E)
R211	1-216-864-11	METAL CHIP	0	5%	1/16W (TRV24E/TRV44E)
R212	1-216-841-11	METAL CHIP	47K	5%	1/16W
R213	1-216-841-11	METAL CHIP	47K	5%	1/16W
R214	1-216-807-11	METAL CHIP	68	5%	1/16W
R215	1-216-821-11	METAL CHIP	1K	5%	1/16W
R216	1-216-817-11	METAL CHIP	470	5%	1/16W
R218	1-218-879-11	METAL GLAZE	22K	0.50%	1/16W
R219	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R220	1-216-833-11	METAL CHIP	10K	5%	1/16W
R221	1-216-833-11	METAL CHIP	10K	5%	1/16W
R222	1-216-818-11	METAL CHIP	560	5%	1/16W
R223	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R225	1-216-833-11	METAL CHIP	10K	5%	1/16W
R226	1-216-833-11	METAL CHIP	10K	5%	1/16W (TRV14E/TRV24E/TRV44E)
R228	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R229	1-218-863-11	METAL GLAZE	4.7K	0.50%	1/16W
R230	1-216-821-11	METAL CHIP	1K	5%	1/16W (TRV14E/TRV24E/TRV44E)
R231	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R232	1-216-821-11	METAL CHIP	1K	5%	1/16W
R234	1-218-849-11	METAL GLAZE	1.2K	0.50%	1/16W
R235	1-216-821-11	METAL CHIP	1K	5%	1/16W
R236	1-218-878-11	METAL GLAZE	20K	0.50%	1/16W
R238	1-216-864-11	METAL CHIP	0	5%	1/16W
R239	1-216-864-11	METAL CHIP	0	5%	1/16W
R240	1-218-876-11	METAL GLAZE	16K	0.50%	1/16W
R241	1-218-839-11	METAL GLAZE	470	0.50%	1/16W
R242	1-218-887-11	METAL GLAZE	47K	0.50%	1/16W
R243	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R244	1-216-843-11	METAL CHIP	68K	5%	1/16W
R245	1-216-864-11	METAL CHIP	0	5%	1/16W (TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
R246	1-216-864-11	METAL CHIP	0	5%	1/16W
R247	1-216-833-11	METAL CHIP	10K	5%	1/16W
R248	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R249	1-216-824-11	METAL CHIP	1.8K	5%	1/16W (TRV14E/TRV24E/TRV44E)
R249	1-216-827-11	METAL CHIP	3.3K	5%	1/16W (TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
R250	1-216-817-11	METAL CHIP	470	5%	1/16W (TRV34/TRV44/TRV52/TRV53/TRV512/TRV44E)
R250	1-216-818-11	METAL CHIP	560	5%	1/16W (TRV32/TRV312/TRV14E/TRV24E)

Ref. No.	Part No.	Description			Remarks
R252	1-216-833-11	METAL CHIP	10K	5%	1/16W
R254	1-216-841-11	METAL CHIP	47K	5%	1/16W
R255	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R256	1-216-833-11	METAL CHIP	10K	5%	1/16W
R257	1-216-821-11	METAL CHIP	1K	5%	1/16W
R259	1-216-833-11	METAL CHIP	10K	5%	1/16W
R260	1-216-817-11	METAL CHIP	470	5%	1/16W
R261	1-216-841-11	METAL CHIP	47K	5%	1/16W
					(TRV14E/TRV24E/TRV44E)
R262	1-216-837-11	METAL CHIP	22K	5%	1/16W
					(TRV14E/TRV24E/TRV44E)
R263	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
					(TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TR
R265	1-216-821-11	METAL CHIP	1K	5%	1/16W
					(TRV14E)
R266	1-216-864-11	METAL CHIP	0	5%	1/16W
R267	1-216-864-11	METAL CHIP	0	5%	1/16W
R268	1-216-818-11	METAL CHIP	560	5%	1/16W
					(TRV14E)
R270	1-216-818-11	METAL CHIP	560	5%	1/16W
					(TRV14E/TRV24E)
R270	1-216-817-11	METAL CHIP	470	5%	1/16W
					(TRV32/TRV312/TRV44E)
R271	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
					(TRV32/TRV312/TRV14E/TRV24E/TRV44E)
R272	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
					(TRV14E/TRV24E/TRV44E)
R274	1-216-864-11	METAL CHIP	0	5%	1/16W
R276	1-216-864-11	METAL CHIP	0	5%	1/16W
R277	1-216-819-11	METAL CHIP	680	5%	1/16W
R279	1-216-821-11	METAL CHIP	1K	5%	1/16W
					(TRV14E)
R281	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R282	1-216-821-11	METAL CHIP	1K	5%	1/16W
					(TRV24E/TRV44E)
R282	1-216-817-11	METAL CHIP	470	5%	1/16W
					(TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
R283	1-216-819-11	METAL CHIP	680	5%	1/16W
					(TRV14E)
R284	1-216-819-11	METAL CHIP	680	5%	1/16W
					(TRV14E)
R286	1-216-836-11	METAL CHIP	18K	5%	1/16W
					(TRV14E)
R287	1-216-864-11	METAL CHIP	0	5%	1/16W
					(TRV14E)
R289	1-216-839-11	METAL CHIP	33K	5%	1/16W
					(TRV14E)
R290	1-216-864-11	METAL CHIP	0	5%	1/16W
					(TRV14E/TRV24E/TRV44E)
R291	1-216-864-11	METAL CHIP	0	5%	1/16W
R292	1-216-857-11	METAL CHIP	1M	5%	1/16W
R293	1-216-817-11	METAL CHIP	470	5%	1/16W
R294	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R295	1-216-852-11	METAL CHIP	390K	5%	1/16W
R296	1-216-849-11	METAL CHIP	220K	5%	1/16W
R297	1-216-842-11	METAL CHIP	56K	5%	1/16W
R298	1-216-833-11	METAL CHIP	10K	5%	1/16W
R299	1-218-272-11	METAL GLAZE	5.1K	5%	1/16W
R302	1-216-864-11	METAL CHIP	0	5%	1/16W
R303	1-216-833-11	METAL CHIP	10K	5%	1/16W
R304	1-216-841-11	METAL CHIP	47K	5%	1/16W
R305	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R306	1-216-853-11	METAL CHIP	470K	5%	1/16W
R307	1-216-841-11	METAL CHIP	47K	5%	1/16W
R308	1-216-853-11	METAL CHIP	470K	5%	1/16W
R309	1-216-853-11	METAL CHIP	470K	5%	1/16W
R310	1-216-841-11	METAL CHIP	47K	5%	1/16W
R311	1-216-817-11	METAL CHIP	470	5%	1/16W
R312	1-208-762-11	METAL GLAZE	150	0.50%	1/10W

Ref. No.	Part No.	Description			Remarks
R313	1-208-750-11	METAL GLAZE	47	0.50%	1/10W
R314	1-216-805-11	METAL CHIP	47	5%	1/16W
R315	1-216-853-11	METAL CHIP	470K	5%	1/16W
R316	1-216-853-11	METAL CHIP	470K	5%	1/16W
R319	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R320	1-216-811-11	METAL CHIP	150	5%	1/16W
					(TRV52/TRV53/TRV512)
R321	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R322	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R323	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R324	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R325	1-216-837-11	METAL CHIP	22K	5%	1/16W
R326	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R328	1-216-853-11	METAL CHIP	470K	5%	1/16W
R329	1-216-853-11	METAL CHIP	470K	5%	1/16W
R330	1-216-864-11	METAL CHIP	0	5%	1/16W
R331	1-216-821-11	METAL CHIP	1K	5%	1/16W
R332	1-216-821-11	METAL CHIP	1K	5%	1/16W
R333	1-216-821-11	METAL CHIP	1K	5%	1/16W
R334	1-216-821-11	METAL CHIP	1K	5%	1/16W
R337	1-216-839-11	METAL CHIP	33K	5%	1/16W
R339	1-216-841-11	METAL CHIP	47K	5%	1/16W
R340	1-216-138-00	METAL CHIP	3.3	5%	1/8W
R341	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R342	1-216-864-11	METAL CHIP	0	5%	1/16W
R343	1-216-820-11	METAL CHIP	820	5%	1/16W
R344	1-216-836-11	METAL CHIP	18K	5%	1/16W
R400	1-216-845-11	METAL CHIP	100K	5%	1/16W
R401	1-216-845-11	METAL CHIP	100K	5%	1/16W
R402	1-216-845-11	METAL CHIP	100K	5%	1/16W
R403	1-216-845-11	METAL CHIP	100K	5%	1/16W
R404	1-216-845-11	METAL CHIP	100K	5%	1/16W
R405	1-216-845-11	METAL CHIP	100K	5%	1/16W
R406	1-216-833-11	METAL CHIP	10K	5%	1/16W
R407	1-216-841-11	METAL CHIP	47K	5%	1/16W
R408	1-216-845-11	METAL CHIP	100K	5%	1/16W
R410	1-216-841-11	METAL CHIP	47K	5%	1/16W
R411	1-216-864-11	METAL CHIP	0	5%	1/16W
R417	1-216-821-11	METAL CHIP	1K	5%	1/16W
R418	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R419	1-216-845-11	METAL CHIP	100K	5%	1/16W
R420	1-216-833-11	METAL CHIP	10K	5%	1/16W
R421	1-216-821-11	METAL CHIP	1K	5%	1/16W
R422	1-216-845-11	METAL CHIP	100K	5%	1/16W
R423	1-216-845-11	METAL CHIP	100K	5%	1/16W
R425	1-216-833-11	METAL CHIP	10K	5%	1/16W
R426	1-216-833-11	METAL CHIP	10K	5%	1/16W
R427	1-216-849-11	METAL CHIP	220K	5%	1/16W
R428	1-216-841-11	METAL CHIP	47K	5%	1/16W
R429	1-216-800-11	METAL GLAZE	18	5%	1/16W
R430	1-216-821-11	METAL CHIP	1K	5%	1/16W
R434	1-216-835-11	METAL CHIP	15K	5%	1/16W
R436	1-216-845-11	METAL CHIP	100K	5%	1/16W
R437	1-216-841-11	METAL CHIP	47K	5%	1/16W
R438	1-216-864-11	METAL CHIP	0	5%	1/16W
R439	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R440	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R441	1-216-837-11	METAL CHIP	22K	5%	1/16W
R442	1-216-845-11	METAL CHIP	100K	5%	1/16W
R443	1-216-837-11	METAL CHIP	22K	5%	1/16W
					(TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
R444	1-216-837-11	METAL CHIP	22K	5%	1/16W

Ref. No.	Part No.	Description				Remarks
R445	1-216-864-11	METAL CHIP	0	5%	1/16W	(TRV14E/TRV24E/TRV44E)
R445	1-216-833-11	METAL CHIP	10K	5%	1/16W	(TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
R446	1-216-836-11	METAL CHIP	18K	5%	1/16W	
R447	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R448	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R449	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R450	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R451	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R452	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R453	1-217-671-11	METAL CHIP	1	5%	1/10W	
R454	1-217-671-11	METAL CHIP	1	5%	1/10W	
R455	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R456	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R458	1-217-671-11	METAL CHIP	1	5%	1/10W	
R459	1-217-671-11	METAL CHIP	1	5%	1/10W	
R460	1-217-671-11	METAL CHIP	1	5%	1/10W	
R461	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R462	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R463	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R464	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R465	1-216-808-11	METAL CHIP	82	5%	1/16W	
R466	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R467	1-216-019-00	METAL CHIP	56	5%	1/10W	
R468	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R469	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R471	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R472	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R473	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R475	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R478	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R479	1-216-817-11	METAL CHIP	470	5%	1/16W	
R481	1-216-817-11	METAL CHIP	470	5%	1/16W	
R484	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R485	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R486	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R487	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R488	1-216-817-11	METAL CHIP	470	5%	1/16W	
R501	1-216-863-11	METAL GLAZE	3.3M	5%	1/16W	(TRV53)
R501	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	(TRV34/TRV44/TRV52/TRV512/TRV44E)
R501	1-216-853-11	METAL CHIP	470K	5%	1/16W	(TRV32/TRV312/TRV14E/TRV24E)
R502	1-216-824-11	METAL CHIP	1.8K	5%	1/16W	(TRV34/TRV44/TRV52/TRV512/TRV44E)
R503	1-218-899-11	METAL GLAZE	150K	0.50%	1/16W	(TRV53)
R503	1-218-897-11	METAL GLAZE	120K	0.50%	1/16W	(TRV34/TRV44/TRV52/TRV512/TRV44E)
R503	1-216-864-11	METAL CHIP	0	5%	1/16W	(TRV32/TRV312/TRV14E/TRV24E)
R505	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R506	1-218-901-11	METAL GLAZE	180K	0.50%	1/16W	(TRV53)
R506	1-218-897-11	METAL GLAZE	120K	0.50%	1/16W	(TRV34/TRV44/TRV52/TRV512/TRV44E)
R506	1-218-893-11	METAL GLAZE	82K	0.50%	1/16W	(TRV32/TRV312/TRV14E/TRV24E)
R507	1-216-831-11	METAL CHIP	6.8K	5%	1/16W	(TRV34/TRV44/TRV52/TRV53/TRV512/TRV44E)
R507	1-216-832-11	METAL CHIP	8.2K	5%	1/16W	(TRV32/TRV312/TRV14E/TRV24E)
R511	1-218-915-11	METAL GLAZE	680K	0.50%	1/16W	(TRV53)
R511	1-218-875-11	METAL GLAZE	15K	0.50%	1/16W	(TRV34/TRV44/TRV52/TRV512/TRV44E)
R512	1-216-864-11	METAL CHIP	0	5%	1/16W	(TRV34/TRV44/TRV52/TRV512/TRV44E)
R513	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	(TRV34/TRV44/TRV52/TRV512/TRV44E)
R514	1-216-833-11	METAL CHIP	10K	5%	1/16W	(TRV34/TRV44/TRV52/TRV53/TRV512/TRV44E)
R514	1-216-831-11	METAL CHIP	6.8K	5%	1/16W	(TRV32/TRV312/TRV14E/TRV24E)
R515	1-216-813-11	METAL CHIP	220	5%	1/16W	(TRV34/TRV44/TRV52/TRV512/TRV44E)
R515	1-216-864-11	METAL CHIP	0	5%	1/16W	(TRV32/TRV53/TRV312/TRV14E/TRV24E)
R516	1-218-897-11	METAL GLAZE	120K	0.50%	1/16W	(TRV34/TRV44/TRV52/TRV512/TRV44E)
R517	1-216-861-11	METAL CHIP	2.2M	5%	1/16W	(TRV53)
R517	1-216-853-11	METAL CHIP	470K	5%	1/16W	(TRV34/TRV44/TRV52/TRV512/TRV44E)
R517	1-216-845-11	METAL CHIP	100K	5%	1/16W	(TRV32/TRV312/TRV14E/TRV24E)
R519	1-216-820-11	METAL CHIP	820	5%	1/16W	
R520	1-216-864-11	METAL CHIP	0	5%	1/16W	(TRV32/TRV53/TRV312/TRV14E/TRV24E)
R522	1-216-817-11	METAL CHIP	470	5%	1/16W	
R526	1-216-817-11	METAL CHIP	470	5%	1/16W	(TRV34/TRV44/TRV52/TRV512/TRV44E)
R527	1-216-853-11	METAL CHIP	470K	5%	1/16W	(TRV34/TRV44/TRV52/TRV512/TRV44E)
R530	1-216-857-11	METAL CHIP	1M	5%	1/16W	(TRV32/TRV312/TRV14E/TRV24E)
R531	1-216-817-11	METAL CHIP	470	5%	1/16W	
R532	1-216-817-11	METAL CHIP	470	5%	1/16W	(TRV34/TRV44/TRV52/TRV512/TRV44E)
R533	1-216-864-11	METAL CHIP	0	5%	1/16W	(TRV34/TRV44/TRV52/TRV512/TRV44E)
R534	1-216-864-11	METAL CHIP	0	5%	1/16W	(TRV32/TRV312/TRV14E/TRV24E)
R537	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	(TRV34/TRV44/TRV52/TRV512/TRV44E)
R537	1-216-864-11	METAL CHIP	0	5%	1/16W	(TRV32/TRV53/TRV312/TRV14E/TRV24E)
R556	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R562	1-216-864-11	METAL CHIP	0	5%	1/16W	
R564	1-216-864-11	METAL CHIP	0	5%	1/16W	(TRV32/TRV53/TRV312/TRV14E/TRV24E)
R570	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	(TRV14E/TRV24E/TRV44E)
R571	1-218-871-11	METAL GLAZE	10K	0.50%	1/16W	(TRV14E/TRV24E/TRV44E)
R575	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	(TRV14E/TRV24E/TRV44E)
R581	1-216-833-11	METAL CHIP	10K	5%	1/16W	(TRV14E/TRV24E/TRV44E)
R601	1-216-001-00	METAL CHIP	10	5%	1/10W	
R603	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R604	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R605	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R606	1-216-835-11	METAL CHIP	15K	5%	1/16W	
R607	1-216-848-11	METAL CHIP	180K	5%	1/16W	
R608	1-216-848-11	METAL CHIP	180K	5%	1/16W	
R609	1-216-848-11	METAL CHIP	180K	5%	1/16W	
R610	1-216-830-11	METAL CHIP	5.6K	5%	1/16W	
R611	1-216-815-11	METAL CHIP	330	5%	1/16W	
R612	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R613	1-216-836-11	METAL CHIP	18K	5%	1/16W	
R614	1-216-836-11	METAL CHIP	18K	5%	1/16W	
R615	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R616	1-216-837-11	METAL CHIP	22K	5%	1/16W	

Ref. No.	Part No.	Description			Remarks
R618	1-216-837-11	METAL CHIP	22K	5%	1/16W
R619	1-216-835-11	METAL CHIP	15K	5%	1/16W
R620	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R621	1-216-833-11	METAL CHIP	10K	5%	1/16W
R630	1-216-843-11	METAL CHIP	68K	5%	1/16W
R631	1-216-843-11	METAL CHIP	68K	5%	1/16W
R632	1-216-848-11	METAL CHIP	180K	5%	1/16W
R633	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R701	1-216-809-11	METAL CHIP	100	5%	1/16W
					(EXCEPT TRV14E)
R702	1-216-809-11	METAL CHIP	100	5%	1/16W
					(TRV14E)
R703	1-216-857-11	METAL CHIP	1M	5%	1/16W
R704	1-216-845-11	METAL CHIP	100K	5%	1/16W
R708	1-216-821-11	METAL CHIP	1K	5%	1/16W
R709	1-218-847-11	METAL GLAZE	1K	0.50%	1/16W
R710	1-218-876-11	METAL GLAZE	16K	0.50%	1/16W
R713	1-216-833-11	METAL CHIP	10K	5%	1/16W
					(TRV14E/TRV24E/TRV44E)
R714	1-216-857-11	METAL CHIP	1M	5%	1/16W
					(TRV14E/TRV24E/TRV44E)
R715	1-216-845-11	METAL CHIP	100K	5%	1/16W
					(TRV14E/TRV24E/TRV44E)
R717	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
					(TRV14E/TRV24E/TRV44E)
R719	1-216-810-11	METAL CHIP	120	5%	1/16W
					(TRV14E)
R719	1-216-818-11	METAL CHIP	560	5%	1/16W
					(EXCEPT TRV14E)
R721	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
					(TRV14E)
R721	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
					(EXCEPT TRV14E)
R722	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
					(TRV14E)
R722	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
					(EXCEPT TRV14E)
R724	1-216-810-11	METAL CHIP	120	5%	1/16W
					(TRV14E)
R724	1-216-818-11	METAL CHIP	560	5%	1/16W
					(EXCEPT TRV14E)
R725	1-216-864-11	METAL CHIP	0	5%	1/16W
R728	1-216-853-11	METAL CHIP	470K	5%	1/16W
R729	1-216-809-11	METAL CHIP	100	5%	1/16W
R732	1-216-841-11	METAL CHIP	47K	5%	1/16W
R733	1-216-841-11	METAL CHIP	47K	5%	1/16W
R734	1-216-841-11	METAL CHIP	47K	5%	1/16W
R735	1-216-841-11	METAL CHIP	47K	5%	1/16W
R743	1-216-864-11	METAL CHIP	0	5%	1/16W
					(TRV34/TRV44/TRV14E/TRV24E/TRV44E)
R744	1-216-864-11	METAL CHIP	0	5%	1/16W
R751	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R756	1-216-864-11	METAL CHIP	0	5%	1/16W
R757	1-216-864-11	METAL CHIP	0	5%	1/16W
R758	1-216-833-11	METAL CHIP	10K	5%	1/16W
					(TRV14E/TRV24E/TRV44E)
R759	1-216-836-11	METAL CHIP	18K	5%	1/16W
					(TRV14E/TRV24E/TRV44E)
R760	1-216-864-11	METAL CHIP	0	5%	1/16W
					(TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
R761	1-216-813-11	METAL CHIP	220	5%	1/16W
					(TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
R775	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R776	1-216-797-11	METAL CHIP	10	5%	1/16W
R777	1-216-797-11	METAL CHIP	10	5%	1/16W
R778	1-218-885-11	METAL GLAZE	39K	0.50%	1/16W
					(EXCEPT TRV14E)
R779	1-218-885-11	METAL GLAZE	39K	0.50%	1/16W
					(EXCEPT TRV14E)
R780	1-218-891-11	METAL GLAZE	68K	0.50%	1/16W
					(EXCEPT TRV14E)
R781	1-218-891-11	METAL GLAZE	68K	0.50%	1/16W
					(EXCEPT TRV14E)
R782	1-216-821-11	METAL CHIP	1K	5%	1/16W
					(EXCEPT TRV14E)
R783	1-216-845-11	METAL CHIP	100K	5%	1/16W
					(EXCEPT TRV14E)
R784	1-216-821-11	METAL CHIP	1K	5%	1/16W
					(EXCEPT TRV14E)
R918	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
					(TRV34/TRV44/TRV52/TRV512/TRV14E/TRV24E/TRV44E)
R919	1-216-839-11	METAL CHIP	33K	5%	1/16W
					(TRV24E/TRV24E)
R923	1-216-857-11	METAL CHIP	1M	5%	1/16W
					(TRV24E/TRV24E)

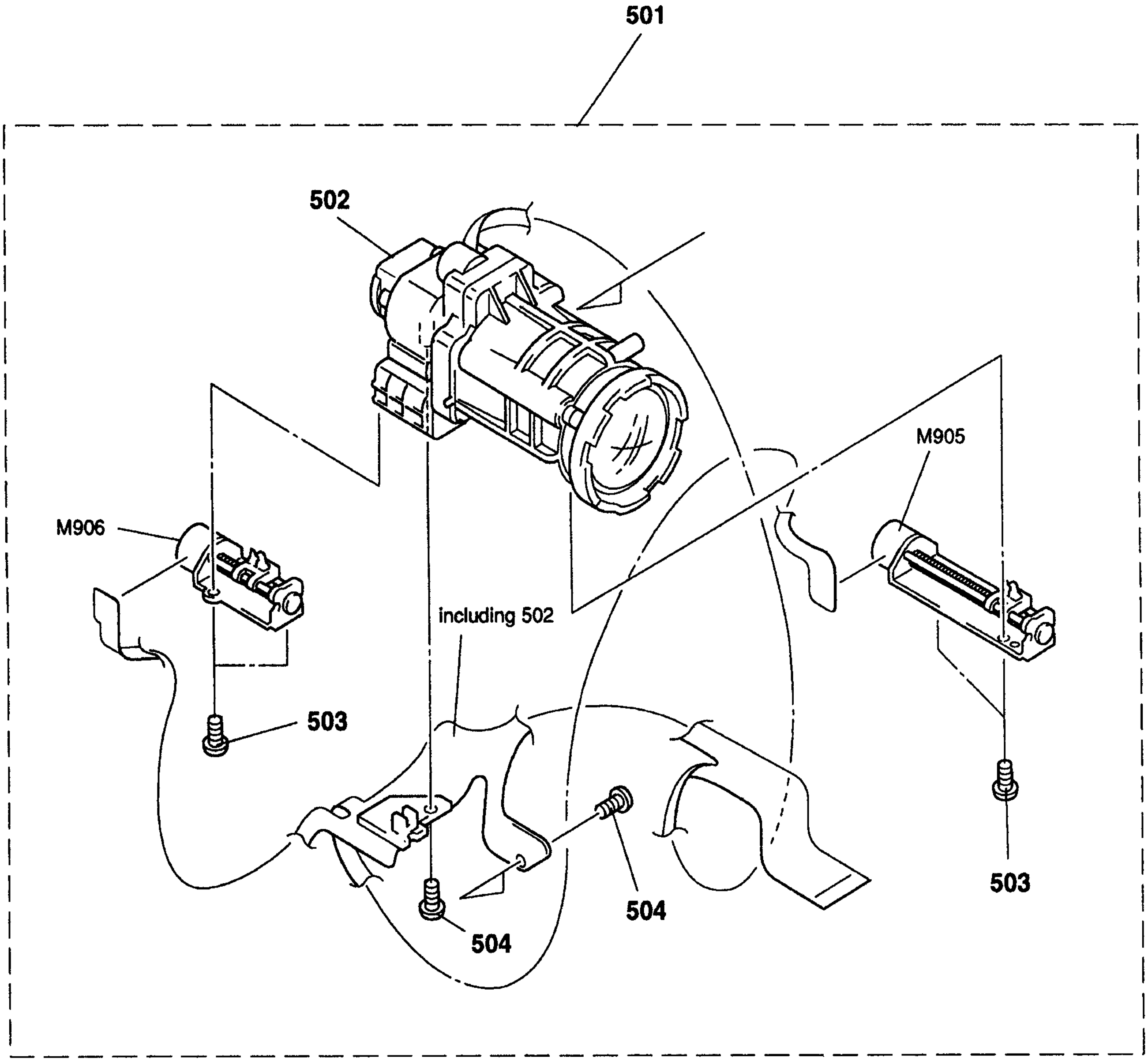
< SWITCH >

Ref. No.	Part No.	Description	Remarks
S301	1-771-029-21	SWITCH, TACTILE (PAUSE)(TRV14E/TRV24E)	
S301	1-692-088-41	SWITCH, TACTILE (PAUSE)	
			(EXCEPT TRV14E/TRV24E)
S302	1-771-029-21	SWITCH, TACTILE (STOP)(TRV14E/TRV24E)	
S302	1-692-088-41	SWITCH, TACTILE (STOP)	
			(EXCEPT TRV14E/TRV24E)
S303	1-771-029-21	SWITCH, TACTILE (FF)(TRV14E/TRV24E)	
S303	1-692-088-41	SWITCH, TACTILE (FF)	
			(EXCEPT TRV14E/TRV24E)
S304	1-771-029-21	SWITCH, TACTILE (PLAY)(TRV14E/TRV24E)	
S304	1-692-088-41	SWITCH, TACTILE (PLAY)	
			(EXCEPT TRV14E/TRV24E)
S305	1-771-029-21	SWITCH, TACTILE (REW)(TRV14E/TRV24E)	
S305	1-692-088-41	SWITCH, TACTILE (REW)	
			(EXCEPT TRV14E/TRV24E)
S306	1-771-029-21	SWITCH, TACTILE (EDITSERCH +)	
			(TRV14E/TRV24E)
S306	1-692-088-41	SWITCH, TACTILE (EDITSERCH +)	
			(EXCEPT TRV14E/TRV24E)
S307	1-771-029-21	SWITCH, TACTILE (EDITSERCH -)	
			(TRV14E/TRV24E)
S307	1-692-088-41	SWITCH, TACTILE (EDITSERCH -)	
			(EXCEPT TRV14E/TRV24E)
S308	1-692-088-41	SWITCH, TACTILE (LASER LINK)	
			(TRV52/TRV53/TRV512)

< VIBRATOR >

Ref. No.	Part No.	Description	Remarks
X400	1-767-031-21	VIBRATOR, CRYSTAL 11.718MHz	
			(TRV14E/TRV24E/TRV44E)
X400	1-767-030-21	VIBRATOR, CRYSTAL 11.895MHz	
			(TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
X701	1-760-321-11	VIBRATOR, CRYSTAL 28.375MHz	
			(TRV14E/TRV24E/TRV44E)
X701	1-760-320-11	VIBRATOR, CRYSTAL 28.636MHz	
			(TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
X702	1-579-613-11	VIBRATOR, CRYSTAL 17.734MHz	
			(TRV14E/TRV24E/TRV44E)
X703	1-579-553-11	VIBRATOR 12MHz(EXCEPT TRV14E)	

5-1-6. ZOOM LENS BLOCK SECTION (LSV-510A)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M905
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including 502
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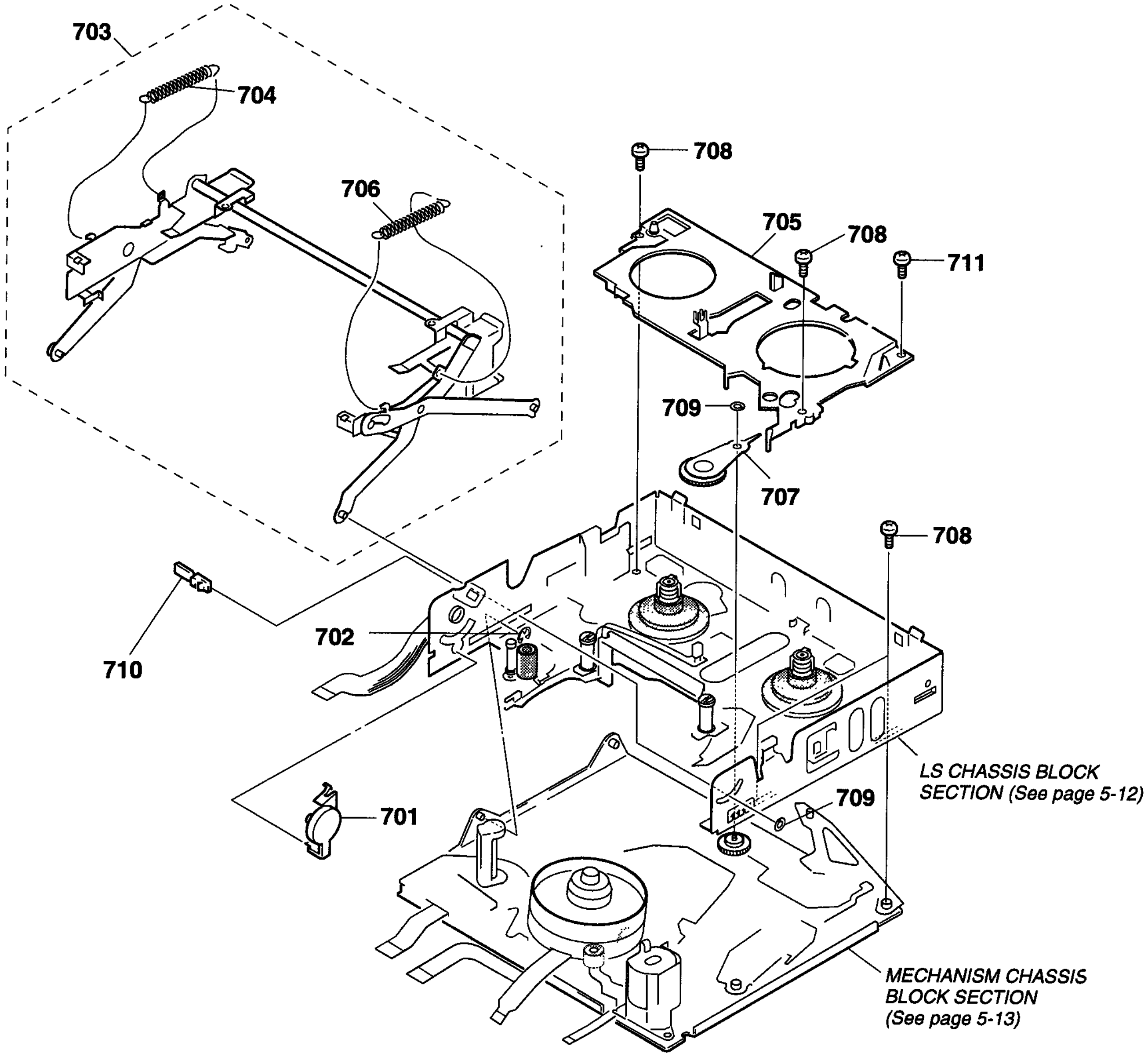
Ref. No.	Part No.	Description	Remarks
501	8-848-710-01	LENS, ZOOM (LSV-510A)	
502	A-4910-808-A	LSV-510A LENS DEVICE	
503	3-713-791-41	SCREW (M1.7X5), TAPPING, P2	
504	3-708-302-01	SCREW (BT3 P1.7X4C)	
M905	1-698-760-01	STEPPING MOTOR (FOCUS)	
M906	1-698-759-01	STEPPING MOTOR (ZOOM)	

5-1-7. CASSETTE COMPARTMENT BLOCK SECTION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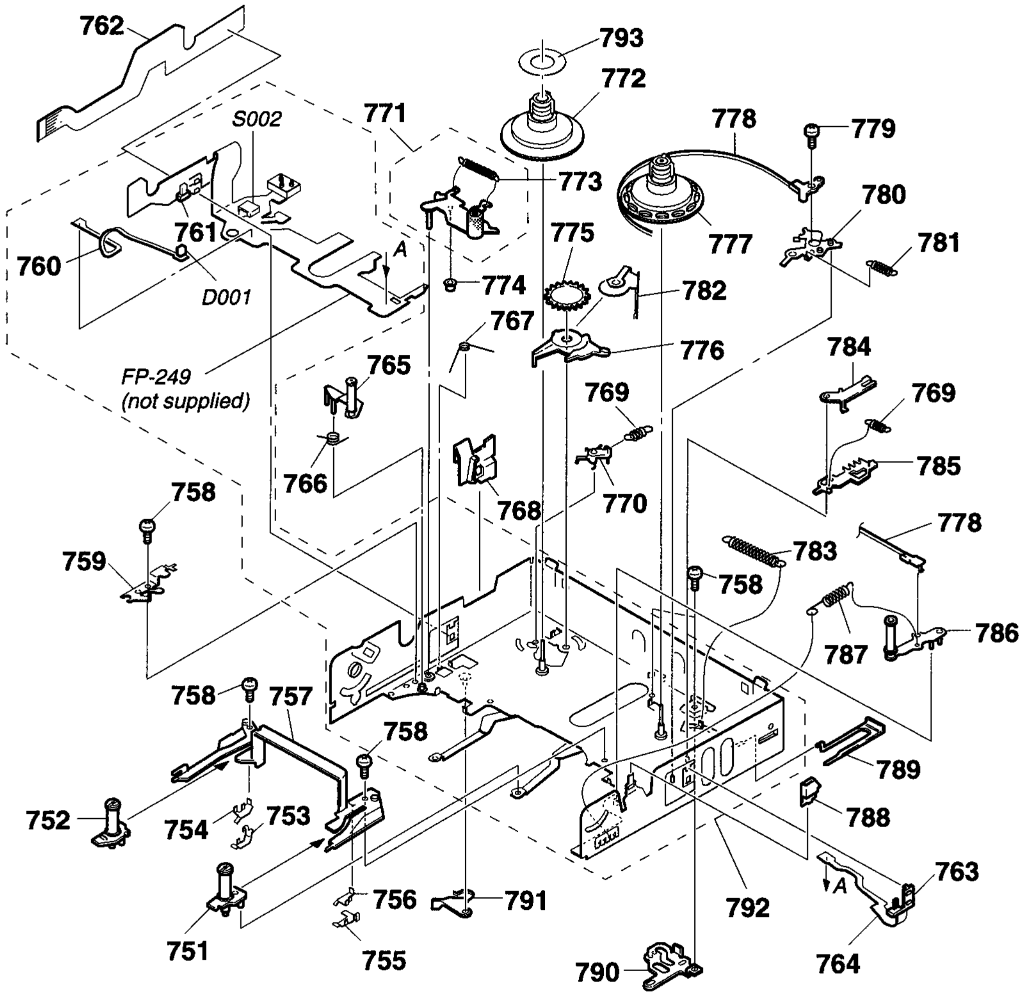
LS CHASSIS BLOCK SECTION (See page 5-12)
MECHANISM CHASSIS BLOCK SECTION (See page 5-13)

Ref. No.	Part No.	Description	Remarks
701	A-7040-421-A	DAMPER ASSY	
702	7-624-102-04	STOP RING 1.5, TYPE -E	
703	X-3945-400-1	CASSETTE COMPARTMENT ASSY	
704	3-965-587-03	SPRING, TENSION	
705	3-965-584-01	RETAINER, GOOSENECK	
706	3-973-268-01	SPRING, TENSION	
707	X-3945-399-1	GEAR ASSY, GOOSENECK	
708	3-947-503-01	SCREW (M1.4X2.5)	
709	3-727-176-01	WASHER	
710	3-971-076-01	FASTENER, D	
711	3-976-055-01	SCREW (M1.4X1)	

5-1-8. LS CHASSIS BLOCK SECTION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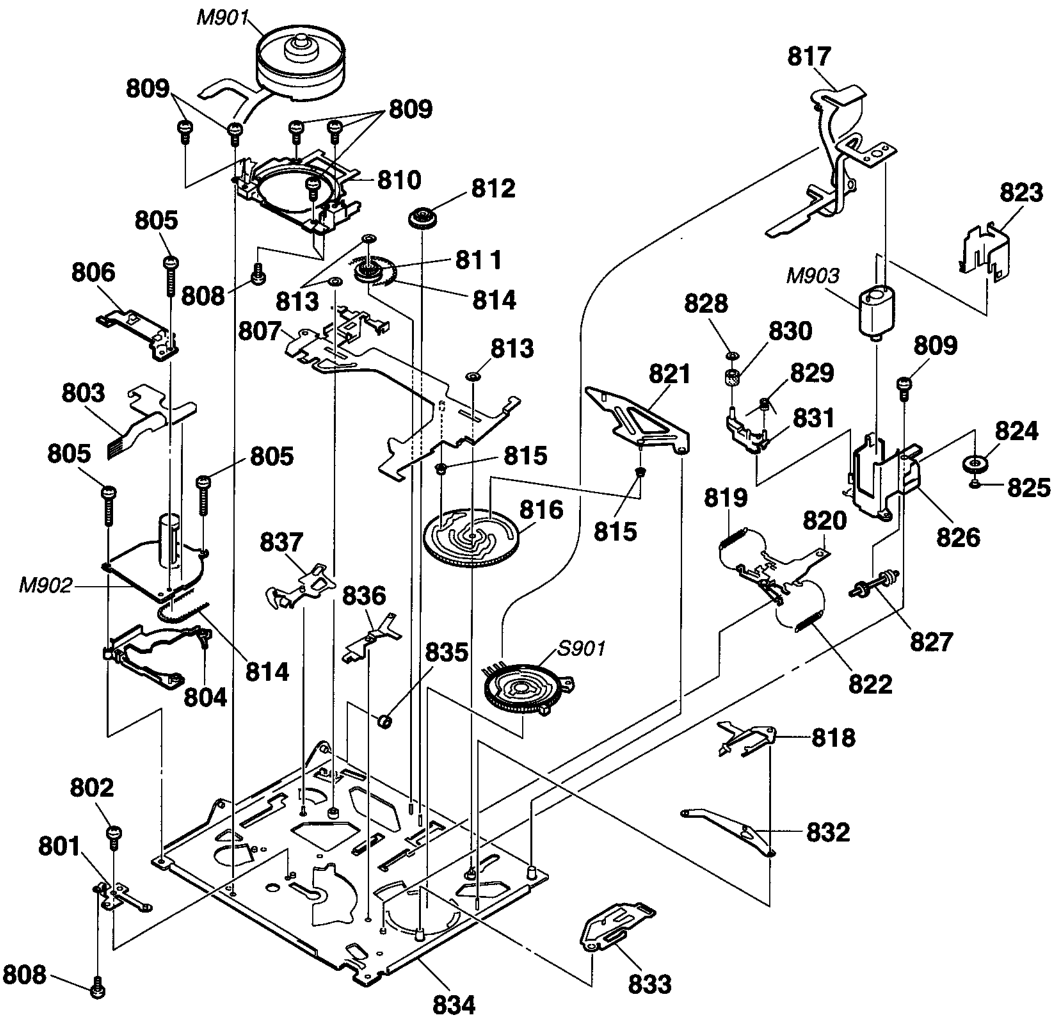
Ref. No.	Part No.	Description	Remarks
751	A-7040-419-A	BASE (S) BLOCK ASSY, GUIDE	
752	A-7040-418-B	BASE (T) BLOCK ASSY, GUIDE	
753	3-965-559-01	STOPPER (T)	
754	3-965-557-01	STOPPER (T), GB	
755	3-965-558-01	STOPPER (S)	
756	3-965-556-01	STOPPER (S), GB	
757	3-965-553-01	RAIL, GUIDE	
758	3-947-503-01	SCREW (M1.4X2.5)	
759	3-965-573-01	RETAINER, TG4	
760	1-658-213-11	FP-355 FLEXIBLE PRINT BOARD	
761	3-965-552-01	HOLDER (T), SENSOR	
762	1-657-786-11	FP-221 FLEXIBLE BOARD	
763	3-965-551-01	HOLDER (S), SENSOR	
764	1-658-214-11	FP-356 FLEXIBLE PRINT BOARD	
765	A-7040-417-A	ARM BLOCK ASSY, TG4	
766	3-965-574-01	SPRING, TORSION	
767	3-965-575-01	SPRING (PINCH), TORSION	
768	3-965-568-01	GUIDE, LOCK	
769	3-965-562-01	SPRING (RATCHET), TENSION	
770	3-965-581-01	RATCHET, T	
771	X-3945-394-1	ARM ASSY, PINCH	
772	X-3945-398-1	DECK ASSY, REEL, T	
773	3-965-648-01	SPRING (PINCH), TENSION	
774	3-965-579-01	ROLLER, PINCH PRESS	
775	3-965-563-01	GEAR, T SOFT	
776	3-965-565-01	CLAW, T SOFT	
777	X-3945-397-1	DECK ASSY, REEL, S	
778	X-3945-396-1	BAND ASSY, TENSION REGULATOR	
779	3-945-756-01	SCREW (M1.4X3)	
780	3-965-583-01	ARM, RVS	
781	3-965-580-01	SPRING, TENSION	
782	3-966-384-01	SPRING, T SOFT	
783	3-965-578-01	SPRING, TENSION	
784	3-965-560-01	RATCHET, S	
785	3-965-561-01	PLATE, RELEASE, S RATCHET	
786	X-3945-395-1	ARM ASSY, TG1	
787	3-965-576-01	SPRING (TG1), TENSION	
788	3-965-567-01	LID OPEN	
789	3-965-566-01	COVER, LS GUIDE	
* 790	3-965-577-01	PLATE, CAM, LS	
791	3-965-569-01	ARM, EJ	
792	A-7040-427-A	CHASSIS (S1) ASSY, LS	
* 793	3-972-838-01	SPACER, REEL	
D001	8-719-988-42	DIODE GL453	
S002	1-572-688-11	SWITCH, PUSH (1 KEY)(C.C.LOCK)	

5-1-9. MECHANISM CHASSIS BLOCK SECTION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Ref. No.	Part No.	Description	Remarks
801	X-3947-343-1	GROUND (IM) ASSY, SHAFT	
802	3-965-550-02	SCREW (M1.7X1.6)	
803	1-657-785-11	FP-248 FLEXIBLE BOARD	
804	3-965-545-01	SPACER, CAPSTAN	
805	3-965-549-01	SCREW (M1.4 X 6.5)	
806	3-966-349-01	HOLDER, FLEXIBLE	
807	3-971-644-01	SLIDER (2), M	
808	3-965-588-11	SCREW (M1.4)	
809	3-947-503-01	SCREW (M1.4X2.5)	
810	A-7040-416-A	BASE BLOCK ASSY, DRUM	
811	3-965-527-01	GEAR, CHANGE	
812	3-965-544-01	GEAR, RELAY	
813	3-331-007-21	WASHER	
814	3-965-546-01	BELT, TIMING	
815	3-965-533-01	ROLLER, LS	
816	3-965-528-01	GEAR, CAM	
817	1-657-784-11	FP-220 FLEXIBLE BOARD	
818	3-965-529-01	PLATE, REGULATOR, TENSION	
819	3-965-536-01	SPRING, TENSION	
820	X-3945-388-1	SLIDER ASSY, GL	
821	3-965-532-01	ARM, LS	
822	3-965-535-01	SPRING, TENSION	
823	3-965-542-01	SHIELD, MOTOR	
824	3-965-539-01	GEAR (A)	
825	3-965-538-01	SLEEVE, MOTOR HOLDER	
826	3-965-540-01	HOLDER, MOTOR	
827	3-965-541-01	SHAFT, WORM	
828	3-321-393-01	WASHER, STOPPER	
829	3-965-724-01	SPRING, TORSION	
830	A-7040-423-A	ROLLER BLOCK ASSY, HC	
831	X-3945-407-1	ARM ASSY, HC ROLLER	
832	3-965-531-01	ARM, GL	
833	3-965-530-01	PLATE (2), REGULATOR, TENSION	
834	X-3946-548-2	CHASSIS ASSY, MECHANICAL	
835	3-965-526-02	ROLLER, LS GUIDE	
836	3-965-547-01	ARM, HC DRIVING	
837	3-965-534-01	PLATE, PRESS, PINCH	
M901	A-7048-851-A	DRUM BLOCK ASSY (DGH-0D5A-R)(PAL)	
M901	A-7048-849-A	DRUM BLOCK ASSY (DGH-0D4A-R)(NTSC)	
M902	8-835-531-32	MOTOR, DC SCE-0601A/C-NP (CAPSTAN)	
M903	X-3945-401-1	MOTOR ASSY, DC (LOADING)	
S901	1-762-436-15	SWITCH, ROTARY (ENCODER)	

5-2. ELECTRICAL PARTS LIST

NOTE:

When indicating parts by reference number, please include the board naame.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifie.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS:
  uF: μF
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- COILS
  uH: μH
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA...: μA... , uPA... , μPA... ,
  uPB... , μPB... , uPC... , μPC... ,
  uPD..., μPD...

Ref. No.	Part No.	Description	Remarks
	A-7073-057-A	CD-164 BOARD, COMPLETE (TRV14E/TRV24E)	
		**********************	
	A-7073-133-A	CD-165 BOARD, COMPLETE	
		**********************	
			(EXCEPT TRV14E/TRV24E)
			(Ref.No.2,000 Series)
		< CAPACITOR >	
C401	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C405	1-126-603-11	ELECT CHIP 4.7uF 20% 35V	
C406	1-126-603-11	ELECT CHIP 4.7uF 20% 35V	
		< CONNECTOR >	
CN401	1-691-380-21	CONNECTOR, FFC/FPC 16P	
		< IC >	
IC401	A-7030-638-A	CCD BLOCK ASSY (MN37240FP)	(TRV32/TRV52/TRV53/TRV312/TRV512)
IC401	A-7030-779-A	CCD BLOCK ASSY (ICX207AK-13)(TRV14E)	
IC401	A-7030-782-A	CCD BLOCK ASSY (ICX211AK-43)	(TRV24E/TRV44E)
IC401	A-7030-791-A	CCD BLOCK ASSY (ICX209AK-43)	(TRV34/TRV44)
		< COIL >	
L401	1-414-757-11	INDUCTOR 100uH	
		< TRANSISTOR >	
Q401	8-729-232-86	TRANSISTOR 2SK1875-BL/V	
Q402	8-729-117-73	TRANSISTOR 2SC4178-F14	
		< RESISTOR >	
R403	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R404	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R407	1-216-295-91	CONDUCTOR, CHIP (2012)	
	A-7073-052-A	CF-45 BOARD, COMPLETE (TRV14E)	
		*********************	
	A-7073-159-A	CF-45 BOARD, COMPLETE (TRV24E)	
		*********************	
	A-7073-163-A	CF-46 BOARD, COMPLETE	
		*********************	
			(TRV34/TRV44/TRV52/TRV512/TRV44E)
	A-7073-137-A	CF-46 BOARD, COMPLETE (TRV32/TRV312)	
		*********************	
	A-7073-189-A	CF-46 BOARD, COMPLETE (TRV53)	
		*********************	
			(Ref.No.2,000 Series)
	3-831-441-XX	CUSHION (5)	
		< BATTERY >	
BH401	1-550-104-11	HOLDER, BATTERY	
		< CAPACITOR >	
C401	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C402	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C405	1-162-974-11	CERAMIC CHIP 0.01uF 50V	
C406	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	
C407	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C408	1-107-682-11	CERAMIC CHIP 1uF 10% 16V	
C409	1-162-968-11	CERAMIC CHIP 0.0047uF 10% 50V	
C410	1-104-847-11	TANTAL. CHIP 22uF 20% 4V	
C412	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C413	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C414	1-104-908-11	TANTAL. CHIP 47uF 20% 4V	
C415	1-162-919-11	CERAMIC CHIP 22PF 5% 50V	
C416	1-162-919-11	CERAMIC CHIP 22PF 5% 50V	
C417	1-104-847-11	TANTAL. CHIP 22uF 20% 4V	
C418	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C419	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	
C421	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	
C422	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	
C424	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	
C425	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	
C426	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	
C427	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	
C429	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	
C430	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	
C431	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	
C432	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	
C433	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	
C434	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C435	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C437	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	
C438	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C439	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	
C440	1-113-642-11	TANTAL. CHIP 47uF 20% 10V	
C441	1-164-005-11	CERAMIC CHIP 0.47uF 25V	
C442	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C443	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C444	1-164-346-11	CERAMIC CHIP 1uF 16V	
C445	1-164-005-11	CERAMIC CHIP 0.47uF 25V	
C446	1-164-005-11	CERAMIC CHIP 0.47uF 25V	
C448	1-162-965-11	CERAMIC CHIP 0.0015uF 10% 50V	
C449	1-164-489-11	CERAMIC CHIP 0.22uF 10% 16V	
C450	1-162-965-11	CERAMIC CHIP 0.0015uF 10% 50V	
C451	1-164-489-11	CERAMIC CHIP 0.22uF 10% 16V	
C452	1-104-908-11	TANTAL. CHIP 47uF 20% 4V	
C453	1-104-908-11	TANTAL. CHIP 47uF 20% 4V	(TRV34/TRV44/TRV52/TRV512/TRV44E)

Ref. No.	Part No.	Description	Remarks
C454	1-162-974-11	CERAMIC CHIP 0.01uF	50V
C455	1-164-227-11	CERAMIC CHIP 0.022uF 10%	25V
C456	1-135-181-21	TANTALUM CHIP 4.7uF 20%	6.3V
C458	1-162-961-11	CERAMIC CHIP 330PF 10%	50V
C461	1-164-357-11	CERAMIC CHIP 1000PF 5%	50V (TRV14E/TRV24E)
C462	1-164-357-11	CERAMIC CHIP 1000PF 5%	50V (TRV14E/TRV24E)
C465	1-164-357-11	CERAMIC CHIP 1000PF 5%	50V (TRV14E/TRV24E)
C467	1-164-357-11	CERAMIC CHIP 1000PF 5%	50V (TRV14E/TRV24E)
C468	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C469	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C470	1-107-823-11	CERAMIC CHIP 0.47uF 10%	16V
		< CONNECTOR >	
CN401	1-766-866-21	CONNECTOR, FFC/FPC 6P	
CN402	1-774-054-21	CONNECTOR, FFC/FPC (ZIF) 45P	
CN403	1-566-537-11	CONNECTOR, FPC (NON ZIF) 5P	(EXCEPT TRV53)
CN404	1-750-630-11	CONNECTOR, FFC/FPC (ZIF) 16P(TRV53)	
CN405	1-770-627-21	PIN, CONNECTOR 10P	
CN406	1-770-629-21	PIN, CONNECTOR 12P	
CN407	1-770-620-21	PIN, CONNECTOR 3P	
CN409	1-580-055-21	PIN, CONNECTOR 2P	
		< DIODE >	
D401	8-719-404-49	DIODE MA111	
D402	8-719-059-51	DIODE MA3J142E0LSO	
D403	8-719-404-49	DIODE MA111	
D404	8-719-404-49	DIODE MA111	
D405	8-719-059-57	DIODE MAZJ082DFLSO	
D406	8-719-420-14	DIODE MA8082-M	
D407	8-719-420-14	DIODE MA8082-M	
D408	8-719-404-49	DIODE MA111	
D410	8-719-404-49	DIODE MA111	
D411	8-719-420-14	DIODE MA8082-M	(EXCEPT TRV14E)
⚠D414	8-719-421-27	DIODE MA728	
D415	8-719-404-49	DIODE MA111	
D416	8-719-420-14	DIODE MA8082-M	
D418	8-719-059-57	DIODE MAZJ082DFLSO	
D419	8-719-404-49	DIODE MA111	
D420	8-719-059-57	DIODE MAZJ082DFLSO	
D421	8-719-404-49	DIODE MA111	
D422	8-719-404-49	DIODE MA111	
D424	8-719-059-57	DIODE MAZJ082DFLSO	
D425	8-719-420-14	DIODE MA8082-M	
D426	8-719-420-14	DIODE MA8082-M	
D427	8-719-059-57	DIODE MAZJ082DFLSO	
D428	8-719-059-57	DIODE MAZJ082DFLSO	(TRV34/TRV44/TRV52/TRV512/TRV44E)
D430	8-719-404-49	DIODE MA111	
D431	8-719-404-49	DIODE MA111	
		< IC >	
IC401	8-759-298-10	IC S-8423NFS-T2	
IC402	8-759-449-48	IC MB89098RPFV-G-152-BND	
IC403	8-759-059-05	IC TL1596CPW-ELM1000	
IC404	8-759-299-00	IC BA7785FS-E2	

Ref. No.	Part No.	Description	Remarks
		< JACK >	
J401	1-565-276-21	JACK, ULTRA SMALL 1P (LANC)	
J402	1-695-514-21	JACK (SMALL TYPE) 1P	(TRV34/TRV44/TRV52/TRV512/TRV44E)
J402	1-695-514-11	JACK (SMALL TYPE) 1P	(TRV32/TRV53/TRV312/TRV14E/TRV24E)
		< COIL >	
L401	1-414-754-11	INDUCTOR 10uH	
L402	1-414-757-11	INDUCTOR 100uH	
L403	1-414-754-11	INDUCTOR 10uH	
L404	1-414-757-11	INDUCTOR 100uH (TRV14E/TRV24E)	
L404	1-216-295-91	CONDUCTOR, CHIP (2012)	(EXCEPT TRV14E/TRV24E)
L405	1-216-295-91	CONDUCTOR, CHIP (2012)	(TRV34/TRV44/TRV52/TRV512/TRV44E)
L406	1-414-757-11	INDUCTOR 100uH (TRV14E/TRV24E)	
L406	1-216-295-91	CONDUCTOR, CHIP (2012)	(EXCEPT TRV14E/TRV24E)
		< IC LINK >	
PS401	1-576-122-21	LINK, IC	
		< TRANSISTOR >	
Q401	8-729-015-76	TRANSISTOR UN5211-TX	
Q402	8-729-030-54	TRANSISTOR MSB1218A-RT1 (TRV14E)	
Q402	8-729-230-60	TRANSISTOR 2SA1586-YG (TRV32/TRV312)	
Q402	8-729-420-24	TRANSISTOR 2SB1218A-QRS	(TRV32/TRV34/TRV44/TRV52/TRV53/TRV44E)
Q403	8-729-015-60	TRANSISTOR 2SJ316-TD	
Q404	8-729-015-76	TRANSISTOR UN5211-TX	
Q405	8-729-015-60	TRANSISTOR 2SJ316-TD	
Q406	8-729-015-76	TRANSISTOR UN5211-TX	
Q409	8-729-823-16	TRANSISTOR 2SC4555-5.6.7	
Q411	8-729-023-89	TRANSISTOR 2SJ305(TE85L)	
Q412	8-729-015-76	TRANSISTOR UN5211-TX	
		< RESISTOR >	
R401	1-216-864-11	METAL CHIP 0 5%	1/16W
R402	1-216-864-11	METAL CHIP 0 5%	1/16W
R403	1-216-833-11	METAL CHIP 10K 5%	1/16W (TRV32/TRV34/TRV44/TRV52/TRV53/TRV44E)
R404	1-216-864-11	METAL CHIP 0 5%	1/16W (TRV53)
R405	1-216-833-11	METAL CHIP 10K 5%	1/16W (TRV32/TRV34/TRV44/TRV52/TRV53/TRV44E)
R406	1-216-857-11	METAL CHIP 1M 5%	1/16W
R407	1-216-845-11	METAL CHIP 100K 5%	1/16W
R408	1-216-857-11	METAL CHIP 1M 5%	1/16W
R409	1-216-845-11	METAL CHIP 100K 5%	1/16W
R410	1-216-805-11	METAL CHIP 47 5%	1/16W
R411	1-216-853-11	METAL CHIP 470K 5%	1/16W
R412	1-216-864-11	METAL CHIP 0 5%	1/16W
R414	1-216-833-11	METAL CHIP 10K 5%	1/16W
R415	1-216-833-11	METAL CHIP 10K 5%	1/16W (EXCEPT TRV14E/TRV24E)
R418	1-216-853-11	METAL CHIP 470K 5%	1/16W
R421	1-216-825-11	METAL CHIP 2.2K 5%	1/16W
R422	1-216-857-11	METAL CHIP 1M 5%	1/16W
R424	1-216-864-11	METAL CHIP 0 5%	1/16W

Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

Ref. No.	Part No.	Description			Remarks
R425	1-216-827-11	METAL CHIP	3.3K	5%	1/16W (EXCEPT TRV14E)
R426	1-216-841-11	METAL CHIP	47K	5%	1/16W
R427	1-216-821-11	METAL CHIP	1K	5%	1/16W
R428	1-216-821-11	METAL CHIP	1K	5%	1/16W
R429	1-216-821-11	METAL CHIP	1K	5%	1/16W
R430	1-216-821-11	METAL CHIP	1K	5%	1/16W
R431	1-216-821-11	METAL CHIP	1K	5%	1/16W
R432	1-216-821-11	METAL CHIP	1K	5%	1/16W
R433	1-216-864-11	METAL CHIP	0	5%	1/16W
R434	1-216-821-11	METAL CHIP	1K	5%	1/16W
R435	1-216-821-11	METAL CHIP	1K	5%	1/16W
R437	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R438	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R439	1-216-853-11	METAL CHIP	470K	5%	1/16W
R440	1-216-821-11	METAL CHIP	1K	5%	1/16W (TRV14E/TRV24E)
R440	1-216-833-11	METAL CHIP	10K	5%	1/16W (EXCEPT TRV14E/TRV24E)
R441	1-216-833-11	METAL CHIP	10K	5%	1/16W
R442	1-216-864-11	METAL CHIP	0	5%	1/16W
R443	1-216-864-11	METAL CHIP	0	5%	1/16W
R444	1-216-864-11	METAL CHIP	0	5%	1/16W
R445	1-216-853-11	METAL CHIP	470K	5%	1/16W
R446	1-216-845-11	METAL CHIP	100K	5%	1/16W
R447	1-216-817-11	METAL CHIP	470	5%	1/16W
R448	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R449	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R450	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R451	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R452	1-216-857-11	METAL CHIP	1M	5%	1/16W
R453	1-216-853-11	METAL CHIP	470K	5%	1/16W
R454	1-216-851-11	METAL CHIP	330K	5%	1/16W
R455	1-216-849-11	METAL CHIP	220K	5%	1/16W
R456	1-218-911-11	METAL GLAZE	470K	0.50%	1/16W
R457	1-216-821-11	METAL CHIP	1K	5%	1/16W
R458	1-216-853-11	METAL CHIP	470K	5%	1/16W
R459	1-218-903-11	METAL GLAZE	220K	0.50%	1/16W
R460	1-216-821-11	METAL CHIP	1K	5%	1/16W
R461	1-216-821-11	METAL CHIP	1K	5%	1/16W
R462	1-216-853-11	METAL CHIP	470K	5%	1/16W
R463	1-216-821-11	METAL CHIP	1K	5%	1/16W
R464	1-216-853-11	METAL CHIP	470K	5%	1/16W
R465	1-216-821-11	METAL CHIP	1K	5%	1/16W
R466	1-216-853-11	METAL CHIP	470K	5%	1/16W
R467	1-216-821-11	METAL CHIP	1K	5%	1/16W
R468	1-216-821-11	METAL CHIP	1K	5%	1/16W
R469	1-216-853-11	METAL CHIP	470K	5%	1/16W
R470	1-216-853-11	METAL CHIP	470K	5%	1/16W
R471	1-216-853-11	METAL CHIP	470K	5%	1/16W
R472	1-216-853-11	METAL CHIP	470K	5%	1/16W
R473	1-216-853-11	METAL CHIP	470K	5%	1/16W
R474	1-216-853-11	METAL CHIP	470K	5%	1/16W
R476	1-216-833-11	METAL CHIP	10K	5%	1/16W
R477	1-216-833-11	METAL CHIP	10K	5%	1/16W
R478	1-216-833-11	METAL CHIP	10K	5%	1/16W
R479	1-216-833-11	METAL CHIP	10K	5%	1/16W
R480	1-216-845-11	METAL CHIP	100K	5%	1/16W
R481	1-216-821-11	METAL CHIP	1K	5%	1/16W
R482	1-216-845-11	METAL CHIP	100K	5%	1/16W
R483	1-216-821-11	METAL CHIP	1K	5%	1/16W
R485	1-216-821-11	METAL CHIP	1K	5%	1/16W
R486	1-216-821-11	METAL CHIP	1K	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R487	1-216-821-11	METAL CHIP	1K	5%	1/16W
R488	1-216-821-11	METAL CHIP	1K	5%	1/16W
R489	1-216-821-11	METAL CHIP	1K	5%	1/16W
R490	1-216-821-11	METAL CHIP	1K	5%	1/16W
R491	1-216-821-11	METAL CHIP	1K	5%	1/16W
R492	1-216-821-11	METAL CHIP	1K	5%	1/16W
R493	1-216-821-11	METAL CHIP	1K	5%	1/16W
R494	1-216-821-11	METAL CHIP	1K	5%	1/16W
R495	1-216-821-11	METAL CHIP	1K	5%	1/16W
R496	1-216-821-11	METAL CHIP	1K	5%	1/16W
R497	1-216-833-11	METAL CHIP	10K	5%	1/16W
R498	1-216-821-11	METAL CHIP	1K	5%	1/16W
R499	1-216-821-11	METAL CHIP	1K	5%	1/16W
R500	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R501	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R502	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R503	1-216-845-11	METAL CHIP	100K	5%	1/16W
R504	1-216-845-11	METAL CHIP	100K	5%	1/16W
R505	1-216-809-11	METAL CHIP	100	5%	1/16W
R506	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R507	1-216-864-11	METAL CHIP	0	5%	1/16W
R508	1-216-864-11	METAL CHIP	0	5%	1/16W
R509	1-216-821-11	METAL CHIP	1K	5%	1/16W
R510	1-216-864-11	METAL CHIP	0	5%	1/16W
R511	1-216-864-11	METAL CHIP	0	5%	1/16W
R513	1-216-837-11	METAL CHIP	22K	5%	1/16W
R514	1-216-833-11	METAL CHIP	10K	5%	1/16W
R515	1-216-821-11	METAL CHIP	1K	5%	1/16W
R517	1-216-810-11	METAL CHIP	120	5%	1/16W
R518	1-216-845-11	METAL CHIP	100K	5%	1/16W
R519	1-216-853-11	METAL CHIP	470K	5%	1/16W
R520	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R521	1-216-821-11	METAL CHIP	1K	5%	1/16W
R522	1-216-810-11	METAL CHIP	120	5%	1/16W (TRV34/TRV44/TRV52/TRV512/TRV44E)
R523	1-216-864-11	METAL CHIP	0	5%	1/16W (TRV34/TRV44/TRV52/TRV53/TRV512/TRV44E)
R523	1-414-229-11	INDUCTOR, FERRITE BEAD			(TRV32/TRV312/TRV14E/TRV24E)
R524	1-216-853-11	METAL CHIP	470K	5%	1/16W
R526	1-216-864-11	METAL CHIP	0	5%	1/16W (TRV34/TRV44/TRV52/TRV53/TRV512/TRV44E)
R526	1-414-229-11	INDUCTOR, FERRITE BEAD			(TRV32/TRV312/TRV14E/TRV24E)
R527	1-216-864-11	METAL CHIP	0	5%	1/16W (TRV34/TRV44/TRV52/TRV53/TRV512/TRV44E)
R527	1-414-229-11	INDUCTOR, FERRITE BEAD			(TRV32/TRV312/TRV14E/TRV24E)
R528	1-216-864-11	METAL CHIP	0	5%	1/16W (TRV34/TRV44/TRV52/TRV53/TRV512/TRV44E)
R528	1-414-229-11	INDUCTOR, FERRITE BEAD			(TRV32/TRV312/TRV14E/TRV24E)
R530	1-216-821-11	METAL CHIP	1K	5%	1/16W
		< SWITCH >			
S401	1-771-025-21	SWITCH, ROTARY (ENCODER)			
S402	1-771-028-11	SWITCH, PUSH			
S403	1-762-650-21	SWITCH, SLIDE (STEADY SHOT)			(EXCEPT TRV14E)
S404	1-762-851-21	SWITCH, KEY BOARD (16:9 WIDE)			(EXCEPT TRV14E)
S405	1-762-851-21	SWITCH, KEY BOARD (COUNTER RESET)			
S406	1-762-851-21	SWITCH, KEY BOARD (TIME)			
S407	1-762-851-21	SWITCH, KEY BOARD (END SEARCH)			
S408	1-762-851-21	SWITCH, KEY BOARD (DISPLAY)			

Ref. No.	Part No.	Description	Remarks
S409	1-762-333-21	SWITCH, TACTILE (FADER)(TRV14E/TRV24E)	
S409	1-692-088-41	SWITCH, TACTILE (FADER)	(EXCEPT TRV14E/TRV24E)
S410	1-762-333-21	SWITCH, TACTILE (BACK LIGHT)	(TRV14E/TRV24E)
S410	1-692-088-41	SWITCH, TACTILE (BACK LIGHT)	(EXCEPT TRV14E/TRV24E)
S411	1-762-851-21	SWITCH, KEY BOARD (DATE)	
S412	1-762-851-21	SWITCH, KEY BOARD (TITLE)	
S413	1-762-851-21	SWITCH, KEY BOARD (PICTURE EFFECT)	
S414	1-762-851-21	SWITCH, KEY BOARD (MENU)	
S415	1-762-648-21	SWITCH, SLIDE (START/STOP MODE)	
		< VIBRATOR >	
X401	1-579-463-11	VIBRATOR, CRYSTAL 32kHz	
X402	1-579-369-21	VIBRATOR 10MHz	

	A-7093-276-A	DD-94 BOARD, COMPLETE **********************	(TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
	A-7093-269-A	DD-94 BOARD, COMPLETE **********************	(TRV14E/TRV24E/TRV44E)
			(Ref.No.1,000 Series)
		< BATTERY >	
BH001	1-537-241-11	TERMINAL BOARD (BATTERY)	
		< CAPACITOR >	
C001	1-164-004-11	CERAMIC CHIP 0.1uF 10%	25V
C002	1-164-004-11	CERAMIC CHIP 0.1uF 10%	25V
C003	1-164-004-11	CERAMIC CHIP 0.1uF 10%	25V
C004	1-162-957-11	CERAMIC CHIP 220PF 5%	50V
C005	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V
C006	1-162-965-11	CERAMIC CHIP 0.0015uF 10%	50V
C007	1-164-227-11	CERAMIC CHIP 0.022uF 10%	25V
C008	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V
C009	1-164-677-11	CERAMIC CHIP 0.033uF 10%	16V
C010	1-128-004-11	ELECT CHIP 10uF 20%	16V
C011	1-126-395-11	ELECT 22uF 20%	16V
C013	1-128-065-11	ELECT 68uF 20%	10V
C014	1-162-968-11	CERAMIC CHIP 0.0047uF 10%	50V
C016	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V
C018	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V
C019	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V
C022	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V
C024	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V
C025	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V
C026	1-162-915-11	CERAMIC CHIP 10PF 0.5PF	50V
C027	1-162-915-11	CERAMIC CHIP 10PF 0.5PF	50V
C028	1-115-566-11	CERAMIC CHIP 4.7uF 10%	10V
C029	1-115-566-11	CERAMIC CHIP 4.7uF 10%	10V
C031	1-115-566-11	CERAMIC CHIP 4.7uF 10%	10V
C032	1-115-566-11	CERAMIC CHIP 4.7uF 10%	10V
C033	1-115-566-11	CERAMIC CHIP 4.7uF 10%	10V
C034	1-115-566-11	CERAMIC CHIP 4.7uF 10%	10V
C035	1-107-682-11	CERAMIC CHIP 1uF 10%	16V
C036	1-115-566-11	CERAMIC CHIP 4.7uF 10%	10V
C037	1-107-682-11	CERAMIC CHIP 1uF 10%	16V

Ref. No.	Part No.	Description	Remarks
C038	1-126-607-11	ELECT CHIP 47uF 20%	4V
C039	1-164-346-11	CERAMIC CHIP 1uF	16V
C040	1-164-346-11	CERAMIC CHIP 1uF	16V
C041	1-164-346-11	CERAMIC CHIP 1uF	16V
C042	1-124-778-00	ELECT CHIP 22uF 20%	6.3V
C043	1-107-682-11	CERAMIC CHIP 1uF 10%	16V
C044	1-164-346-11	CERAMIC CHIP 1uF	16V
C045	1-126-395-11	ELECT 22uF 20%	16V
C046	1-128-006-11	ELECT CHIP 4.7uF 20%	25V
		< CONNECTOR >	
* CN003	1-691-935-11	CONNECTOR, BOARD TO BOARD 38P	
CN005	1-770-620-21	PIN, CONNECTOR 3P	
		< DIODE >	
D001	8-719-989-33	DIODE FC806	
D002	8-719-420-14	DIODE MA8082-M	
		< FUSE >	
⚠F001	1-533-284-11	LINK, CHIP IC (TRV14E/TRV24E/TRV44E)	
⚠F001	1-533-483-11	FUSE (SMD) 1.6A/125V	(TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
⚠F003	1-533-284-11	LINK, CHIP IC (TRV14E/TRV24E/TRV44E)	
⚠F003	1-533-483-11	FUSE (SMD) 1.6A/125V	(TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
⚠F004	1-533-284-11	LINK, CHIP IC (TRV14E/TRV24E/TRV44E)	
⚠F004	1-533-483-11	FUSE (SMD) 1.6A/125V	(TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)
		< IC >	
IC001	8-759-350-29	IC SN104213PM-T6	
		< COIL >	
L002	1-416-193-11	COIL, CHOKE 10uH	
L004	1-416-193-11	COIL, CHOKE 10uH	
L005	1-416-194-11	COIL, CHOKE 47uH	
L006	1-416-194-11	COIL, CHOKE 47uH	
L007	1-411-705-11	COIL, CHOKE 22uH	
L008	1-416-194-11	COIL, CHOKE 47uH	
L009	1-411-705-11	COIL, CHOKE 22uH	
L010	1-412-056-11	INDUCTOR CHIP 4.7uH	
L011	1-412-056-11	INDUCTOR CHIP 4.7uH	
L012	1-412-056-11	INDUCTOR CHIP 4.7uH	
L013	1-412-056-11	INDUCTOR CHIP 4.7uH	
L014	1-412-064-11	INDUCTOR CHIP 100uH	
L015	1-412-064-11	INDUCTOR CHIP 100uH	
L016	1-412-056-11	INDUCTOR CHIP 4.7uH	
L017	1-412-056-11	INDUCTOR CHIP 4.7uH	
L018	1-412-056-11	INDUCTOR CHIP 4.7uH	
		< TRANSISTOR >	
Q001	8-729-033-14	TRANSISTOR FP107-TL	
Q002	8-729-033-14	TRANSISTOR FP107-TL	
Q003	8-729-804-41	TRANSISTOR 2SB1122-S	
Q004	8-729-033-14	TRANSISTOR FP107-TL	
Q005	8-729-033-14	TRANSISTOR FP107-TL	

Note : The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	**Note :** Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

Ref. No.	Part No.	Description	Remarks
Q006	8-729-033-14	TRANSISTOR FP107-TL	
Q007	8-729-030-75	TRANSISTOR 2SK2316-TD	
Q008	8-729-402-42	TRANSISTOR UN5213	
		< RESISTOR >	
R001	1-216-841-11	METAL CHIP 47K 5%	1/16W
R002	1-216-835-11	METAL CHIP 15K 5%	1/16W
R003	1-216-837-11	METAL CHIP 22K 5%	1/16W
R004	1-216-829-11	METAL CHIP 4.7K 5%	1/16W
R005	1-216-839-11	METAL CHIP 33K 5%	1/16W
R006	1-216-837-11	METAL CHIP 22K 5%	1/16W
R007	1-216-821-11	METAL CHIP 1K 5%	1/16W
R008	1-216-813-11	METAL CHIP 220 5%	1/16W
R009	1-216-841-11	METAL CHIP 47K 5%	1/16W
R010	1-216-845-11	METAL CHIP 100K 5%	1/16W
R013	1-216-864-11	METAL CHIP 0 5%	1/16W
R014	1-216-821-11	METAL CHIP 1K 5%	1/16W
R015	1-216-819-11	METAL CHIP 680 5%	1/16W
R016	1-216-864-11	METAL CHIP 0 5%	1/16W
R017	1-216-833-11	METAL CHIP 10K 5%	1/16W
R018	1-216-833-11	METAL CHIP 10K 5%	1/16W
R019	1-216-833-11	METAL CHIP 10K 5%	1/16W
R020	1-216-835-11	METAL CHIP 15K 5%	1/16W
R021	1-216-839-11	METAL CHIP 33K 5%	1/16W
R022	1-216-831-11	METAL CHIP 6.8K 5%	1/16W
R023	1-216-797-11	METAL CHIP 10 5%	1/16W
R024	1-216-837-11	METAL CHIP 22K 5%	1/16W
R025	1-216-841-11	METAL CHIP 47K 5%	1/16W
R027	1-216-833-11	METAL CHIP 10K 5%	1/16W
R032	1-216-864-11	METAL CHIP 0 5%	1/16W
R033	1-216-833-11	METAL CHIP 10K 5%	1/16W
R037	1-216-833-11	METAL CHIP 10K 5%	1/16W
R038	1-216-833-11	METAL CHIP 10K 5%	1/16W
R040	1-216-864-11	METAL CHIP 0 5%	1/16W
R041	1-216-864-11	METAL CHIP 0 5%	1/16W
R045	1-218-915-11	METAL GLAZE 680K 0.50%	1/16W
R046	1-216-864-11	METAL CHIP 0 5%	1/16W
		< SWITCH >	
S001	1-771-039-11	SWITCH, PUSH (START/STOP)	
S002	1-572-467-21	SWITCH, PUSH (1 KEY)(EJECT)	
S004	1-771-039-11	SWITCH, PUSH (STANDBY)	
		< TRANSFORMER >	
⚠T001	1-431-246-21	TRANSFORMER, DC/DC CONVERTER	

FP-249 BOARD
****

(Ref.No.5,000 Series)

Ref. No.	Part No.	Description	Remarks
	1-658-214-11	FP-356 FLEXIBLE BOARD	
	3-965-551-01	HOLDER (S), SENSOR	
	3-965-552-01	HOLDER (T), SENSOR	
		< HOLE ELEMENT >	
H001	8-719-033-37	ELEMENT, HALL HW-105C	
H002	8-719-033-37	ELEMENT, HALL HW-105C	
		< TRANSISTOR >	
Q001	8-729-907-25	TRANSISTOR PT4850F	
Q002	8-729-907-25	TRANSISTOR PT4850F	
		< SWITCH >	
S001	1-692-614-11	SWITCH, PUSH (3 KEY)	
S002	1-572-688-11	SWITCH, PUSH (1 KEY) (C.C.LOCK)	

FP-355 BOARD
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(Ref.No.5,000 Series)

Ref. No.	Part No.	Description	Remarks
	1-658-213-11	FP-355 FLEXIBLE BOARD	
		< DIODE >	
D001	8-719-988-42	DIODE GL453S	

A-7073-091-A IR-28 BOARD, COMPLETE (TRV53)
****

(Ref.No.1,000 Series)

Ref. No.	Part No.	Description	Remarks
		< CAPACITOR >	
C001	1-109-982-11	CERAMIC CHIP 1uF 10%	10V
C002	1-109-982-11	CERAMIC CHIP 1uF 10%	10V
C003	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C004	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C005	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C006	1-107-823-11	CERAMIC CHIP 0.47uF 10%	16V
C008	1-162-921-11	CERAMIC CHIP 33PF 5%	50V
C009	1-162-922-11	CERAMIC CHIP 39PF 5%	50V
C010	1-162-909-11	CERAMIC CHIP 4PF 0.25PF	50V
C011	1-164-668-11	CERAMIC CHIP 510PF 5%	50V
C012	1-135-259-11	TANTAL. CHIP 10uF 20%	6.3V
C013	1-135-259-11	TANTAL. CHIP 10uF 20%	6.3V
C014	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C015	1-135-201-11	TANTALUM CHIP 10uF 20%	4V
C017	1-135-145-11	TANTALUM CHIP 0.47uF 10%	35V
C018	1-113-987-11	TANTAL. CHIP 4.7uF 20%	25V
C019	1-107-823-11	CERAMIC CHIP 0.47uF 10%	16V
C020	1-107-823-11	CERAMIC CHIP 0.47uF 10%	16V
C022	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C023	1-135-259-11	TANTAL. CHIP 10uF 20%	6.3V
C024	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C025	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C026	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C029	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C030	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C031	1-135-145-11	TANTALUM CHIP 0.47uF 10%	35V
C033	1-135-259-11	TANTAL. CHIP 10uF 20%	6.3V
C036	1-104-852-11	TANTAL. CHIP 22uF 20%	6.3V
C037	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C038	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C039	1-135-181-21	TANTALUM CHIP 4.7uF 20%	6.3V
		< CONNECTOR >	
* CN001	1-691-922-11	CONNECTOR, BOARD TO BOARD 14P	

Ref. No.	Part No.	Description			Remarks
		< IC >			
IC001	8-759-455-09	IC LA9510W-TBM			
		< COIL >			
L002	1-412-948-11	INDUCTOR 5.6uH			
L003	1-414-754-11	INDUCTOR 10uH			
L004	1-412-957-11	INDUCTOR 33uH			
L005	1-412-957-11	INDUCTOR 33uH			
		< TRANSISTOR >			
Q006	8-729-122-63	TRANSISTOR 2SA1226			
Q007	8-729-420-24	TRANSISTOR 2SB1218A-QRS			
		< RESISTOR >			
R002	1-218-879-11	METAL GLAZE	22K	0.50%	1/16W
R004	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R005	1-216-818-11	METAL CHIP	560	5%	1/16W
R006	1-216-817-11	METAL CHIP	470	5%	1/16W
R007	1-216-817-11	METAL CHIP	470	5%	1/16W
R008	1-216-041-00	METAL CHIP	470	5%	1/10W
R009	1-216-864-11	METAL CHIP	0	5%	1/16W
R013	1-216-864-11	METAL CHIP	0	5%	1/16W
R015	1-216-817-11	METAL CHIP	470	5%	1/16W
R016	1-216-821-11	METAL CHIP	1K	5%	1/16W
R017	1-216-815-11	METAL CHIP	330	5%	1/16W
R019	1-216-864-11	METAL CHIP	0	5%	1/16W
R020	1-216-833-11	METAL CHIP	10K	5%	1/16W
R021	1-216-841-11	METAL CHIP	47K	5%	1/16W
R022	1-216-833-11	METAL CHIP	10K	5%	1/16W
R023	1-216-841-11	METAL CHIP	47K	5%	1/16W
R024	1-216-853-11	METAL CHIP	470K	5%	1/16W
R033	1-216-837-11	METAL CHIP	22K	5%	1/16W
R034	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R035	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R036	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R039	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R041	1-216-833-11	METAL CHIP	10K	5%	1/16W
R043	1-216-847-11	METAL CHIP	150K	5%	1/16W
R044	1-216-847-11	METAL CHIP	150K	5%	1/16W
R046	1-216-864-11	METAL CHIP	0	5%	1/16W

	A-7073-058-A	JK-154 BOARD, COMPLETE (TRV14E/TRV24E) ***********************			
	A-7073-162-A	JK-155 BOARD, COMPLETE ***********************			(TRV34/TRV44/TRV52/TRV44E)
	A-7073-134-A	JK-155 BOARD, COMPLETE ***********************			(TRV32/TRV53/TRV312/TRV512)
					(Ref.No.2,000 Series)
		< CAPACITOR >			
C061	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
		(TRV14E/TRV24E)			
C062	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
		(TRV14E/TRV24E)			
C065	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
		< CONNECTOR >			
CN060	1-764-680-21	CONNECTOR, FFC/FPC (ZIF) 8P			

Ref. No.	Part No.	Description			Remarks
		< DIODE >			
D063	8-719-059-57	DIODE MAZJ082DFLSO			
D069	8-719-059-57	DIODE MAZJ082DFLSO			
D070	8-719-061-82	DIODE TLSU1002(TPX1,SONY)			
		< FERRITE BEAD >			
FB061	1-414-228-11	INDUCTOR, FERRITE BEAD			(TRV34/TRV44/TRV52/TRV44E)
FB061	1-414-229-11	INDUCTOR, FERRITE BEAD			(TRV32/TRV53/TRV312/TRV512/TRV14E/TRV24E)
		< JACK >			
J060	1-537-726-11	TERMINAL BOARD (VIDEO/AUDIO OUT)			
		< COIL >			
L061	1-216-295-91	CONDUCTOR, CHIP (2012)			
L062	1-216-295-91	CONDUCTOR, CHIP (2012)			(TRV34/TRV44/TRV52/TRV44E)
		< RESISTOR >			
R062	1-216-821-11	METAL CHIP	1K	5%	1/16W
					(TRV14E/TRV24E)
R062	1-216-817-11	METAL CHIP	470	5%	1/16W
					(EXCEPT TRV14E/TRV24E)
R065	1-216-864-11	METAL CHIP	0	5%	1/16W

	A-7073-086-A	LB-49 BOARD, COMPLETE (TRV53) **********************			
					(Ref.No.7,000 Series)
		< CAPACITOR >			
C801	1-104-917-11	TANTAL. CHIP	15uF	20%	20V
C802	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C803	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C804	1-163-020-00	CERAMIC CHIP	0.0082uF	10%	50V
C805	1-163-020-00	CERAMIC CHIP	0.0082uF	10%	50V
C806	1-163-020-00	CERAMIC CHIP	0.0082uF	10%	50V
		< CONNECTOR >			
CN801	1-779-383-11	CONNECTOR, BOARD TO BOARD 10P			
		< DIODE >			
D802	8-719-056-49	DIODE 1SS370(TE85L)			
		< COIL >			
L801	1-412-033-11	INDUCTOR CHIP 220uH			
L802	1-412-029-11	INDUCTOR CHIP 10uH			
		< FLUORECENT INDICATOR >			
⚠ND801	1-517-325-11	LANP, FLUORESCENT (0.55 INCH)			
		< TRANSISTOR >			
Q801	8-729-024-60	TRANSISTOR MTD6N15T4			
		< RESISTOR >			
R801	1-216-809-11	METAL CHIP	100	5%	1/16W
R802	1-216-839-11	METAL CHIP	33K	5%	1/16W

Ref. No.	Part No.	Description	Remarks
		< TRANSFORMER >	
⚠T801	1-429-756-21	TRANSFORMER, INVERTER	
	A-7073-050-A	MA-296 BOARD, COMPLETE (TRV14E/TRV24E) **********************	
	A-7073-165-A	MA-297 BOARD, COMPLETE **********************	(TRV34/TRV44/TRV44E)
	A-7073-138-A	MA-297 BOARD, COMPLETE (TRV32/TRV312) **********************	
	A-7073-192-A	MA-297 BOARD, COMPLETE (TRV52/TRV512) **********************	
	A-7073-190-A	MA-297 BOARD, COMPLETE (TRV53) **********************	
			(Ref.No.2,000 Series)
		< CAPACITOR >	
C953	1-162-967-11	CERAMIC CHIP 0.0033uF 10% 50V	(TRV34/TRV44/TRV52/TRV512/TRV44E)
C954	1-162-927-11	CERAMIC CHIP 100PF 5% 50V	(TRV34/TRV44/TRV52/TRV512/TRV44E)
C955	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	(TRV34/TRV44/TRV52/TRV512/TRV24E/TRV44E)
C956	1-115-156-11	CERAMIC CHIP 1uF 10V	(TRV52/TRV53/TRV512)
C957	1-164-156-11	CERAMIC CHIP 0.1uF 25V	(TRV34/TRV44/TRV52/TRV512/TRV44E)
C958	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	(TRV34/TRV44/TRV52/TRV512/TRV44E)
C959	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	(TRV34/TRV44/TRV52/TRV512/TRV44E)
C960	1-109-982-11	CERAMIC CHIP 1uF 10% 10V	(TRV34/TRV44/TRV52/TRV512/TRV44E)
C961	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	(TRV34/TRV44/TRV52/TRV512/TRV44E)
C962	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	(TRV34/TRV44/TRV52/TRV512/TRV24E/TRV44E)
C963	1-162-927-11	CERAMIC CHIP 100PF 5% 50V	(TRV34/TRV44/TRV52/TRV512/TRV44E)
C964	1-162-927-11	CERAMIC CHIP 100PF 5% 50V	
C966	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	(EXCEPT TRV14E/TRV24E)
C967	1-107-686-11	TANTAL. CHIP 4.7uF 20% 16V	(EXCEPT TRV14E/TRV24E)
C969	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	(TRV34/TRV44/TRV52/TRV512/TRV44E)
C970	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	(TRV34/TRV44/TRV52/TRV512/TRV44E)
C972	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	(TRV34/TRV44/TRV52/TRV512/TRV44E)
C973	1-109-982-11	CERAMIC CHIP 1uF 10% 10V	(TRV34/TRV44/TRV52/TRV512/TRV44E)
C974	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	(TRV34/TRV44/TRV52/TRV512/TRV44E)
C975	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	(TRV34/TRV44/TRV52/TRV512/TRV44E)
C977	1-162-967-11	CERAMIC CHIP 0.0033uF 10% 50V	(TRV34/TRV44/TRV52/TRV512/TRV44E)
C978	1-162-927-11	CERAMIC CHIP 100PF 5% 50V	
C980	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	(TRV32/TRV53/TRV312/TRV14E/TRV24E)
C982	1-165-128-11	CERAMIC CHIP 0.22uF 16V	(TRV32/TRV53/TRV312/TRV14E/TRV24E)
C983	1-162-927-11	CERAMIC CHIP 100PF 5% 50V	(TRV32/TRV53/TRV312/TRV14E/TRV24E)
C984	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	(TRV32/TRV53/TRV312/TRV14E/TRV24E)
C985	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	(TRV32/TRV53/TRV312/TRV14E/TRV24E)
C986	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	(TRV32/TRV53/TRV312/TRV14E/TRV24E)
C988	1-164-346-11	CERAMIC CHIP 1uF 16V	(TRV32/TRV53/TRV312/TRV14E/TRV24E)
C990	1-124-779-00	ELECT CHIP 10uF 20% 16V	(TRV34/TRV44/TRV52/TRV512/TRV44E)
C990	1-126-607-11	ELECT CHIP 47uF 20% 4V	(TRV32/TRV53/TRV312/TRV14E/TRV24E)
C991	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	(TRV53)
C991	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	(TRV32/TRV312/TRV14E/TRV24E)
C993	1-124-779-00	ELECT CHIP 10uF 20% 16V	
C995	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	(TRV34/TRV44/TRV52/TRV512/TRV44E)
C996	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	(TRV34/TRV44/TRV52/TRV512/TRV44E)
C998	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	(TRV34/TRV44/TRV52/TRV512/TRV44E)
C999	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	(TRV34/TRV44/TRV52/TRV512/TRV44E)
		< CONNECTOR >	
CN951	1-750-076-21	CONNECTOR, FFC/FPC 12P	
CN952	1-580-055-21	PIN, CONNECTOR 2P	(TRV34/TRV44/TRV52/TRV512/TRV44E)
CN953	1-580-055-21	PIN, CONNECTOR 2P	
		< DIODE >	
D952	8-719-059-51	DIODE MA3J142E0LSO	
D956	8-749-060-65	DIODE DCC3810 (TRV52/TRV53/TRV512)	
		< IC >	
IC951	8-759-380-80	IC LA7473V-TLM	(TRV34/TRV44/TRV52/TRV512/TRV44E)
IC952	8-759-339-63	IC NJM2118V-TE2	(TRV32/TRV53/TRV312/TRV14E/TRV24E)
IC953	8-749-013-49	IC PNA4613M00XD	(TRV32/TRV312/TRV14E/TRV24E)
		< JACK >	
J951	1-691-737-11	JACK, SMALL TYPE (MIC)(TRV52/TRV512)	
J951	1-568-027-11	JACK, SMALL TYPE (MIC)	(EXCEPT TRV52/TRV512)
		< TRANSISTOR >	
Q951	8-729-030-54	TRANSISTOR MSB1218A-RT1	(TRV14E/TRV24E)
Q951	8-729-230-60	TRANSISTOR 2SA1586-YG (TRV32/TRV312)	
Q951	8-729-420-24	TRANSISTOR 2SB1218A-QRS	(TRV32/TRV53/TRV312/TRV14E/TRV24E)
Q954	8-729-140-75	TRANSISTOR 2SD999-CLCK	
		< RESISTOR >	
R953	1-216-864-11	METAL CHIP 0 5% 1/16W	
R954	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	(TRV34/TRV44/TRV52/TRV512/TRV44E)
R955	1-216-864-11	METAL CHIP 0 5% 1/16W	
R956	1-216-864-11	METAL CHIP 0 5% 1/16W	

Note : The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	**Note :** Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remarks
R957	1-216-829-11	METAL CHIP	4.7K	5%	1/16W (TRV34/TRV44/TRV52/TRV512/TRV44E)
R958	1-216-838-11	METAL CHIP	27K	5%	1/16W (TRV34/TRV44/TRV52/TRV512/TRV44E)
R959	1-216-833-11	METAL CHIP	10K	5%	1/16W (TRV34/TRV44/TRV52/TRV512/TRV44E)
R960	1-216-311-00	METAL CHIP	6.8	5%	1/10W (TRV52/TRV53/TRV512)
R961	1-216-825-11	METAL CHIP	2.2K	5%	1/16W (TRV34/TRV44/TRV52/TRV512/TRV44E)
R962	1-216-839-11	METAL CHIP	33K	5%	1/16W (TRV34/TRV44/TRV52/TRV512/TRV44E)
R963	1-216-831-11	METAL CHIP	6.8K	5%	1/16W (TRV34/TRV44/TRV52/TRV512/TRV44E)
R964	1-216-831-11	METAL CHIP	6.8K	5%	1/16W (TRV34/TRV44/TRV52/TRV512/TRV44E)
R965	1-216-839-11	METAL CHIP	33K	5%	1/16W (TRV34/TRV44/TRV52/TRV512/TRV44E)
R966	1-216-302-00	METAL CHIP	2.7	5%	1/10W (TRV52/TRV53/TRV512)
R967	1-216-833-11	METAL CHIP	10K	5%	1/16W (TRV34/TRV44/TRV52/TRV512/TRV44E)
R968	1-216-829-11	METAL CHIP	4.7K	5%	1/16W (TRV34/TRV44/TRV52/TRV512/TRV44E)
R969	1-216-838-11	METAL CHIP	27K	5%	1/16W (TRV34/TRV44/TRV52/TRV512/TRV44E)
R970	1-216-825-11	METAL CHIP	2.2K	5%	1/16W (TRV34/TRV44/TRV52/TRV512/TRV44E)
R973	1-216-823-11	METAL CHIP	1.5K	5%	1/16W (TRV34/TRV44/TRV52/TRV512/TRV44E)
R975	1-216-831-11	METAL CHIP	6.8K	5%	1/16W (TRV34/TRV44/TRV52/TRV512/TRV44E)
R976	1-216-831-11	METAL CHIP	6.8K	5%	1/16W (TRV34/TRV44/TRV52/TRV512/TRV44E)
R978	1-216-823-11	METAL CHIP	1.5K	5%	1/16W (TRV32/TRV53/TRV312/TRV14E/TRV24E)
R979	1-216-819-11	METAL CHIP	680	5%	1/16W (TRV53)
R979	1-216-818-11	METAL CHIP	560	5%	1/16W (TRV32/TRV312/TRV14E/TRV24E)
R980	1-216-830-11	METAL CHIP	5.6K	5%	1/16W (TRV32/TRV53/TRV312/TRV14E/TRV24E)
R981	1-216-838-11	METAL CHIP	27K	5%	1/16W (TRV32/TRV53/TRV312/TRV14E/TRV24E)
R982	1-216-831-11	METAL CHIP	6.8K	5%	1/16W (TRV32/TRV53/TRV312/TRV14E/TRV24E)
R983	1-216-838-11	METAL CHIP	27K	5%	1/16W (TRV32/TRV53/TRV312/TRV14E/TRV24E)
R986	1-216-864-11	METAL CHIP	0	5%	1/16W (TRV34/TRV44/TRV52/TRV512/TRV44E)
R989	1-216-824-11	METAL CHIP	1.8K	5%	1/16W (TRV34/TRV44/TRV52/TRV512/TRV44E)
R990	1-216-829-11	METAL CHIP	4.7K	5%	1/16W (TRV34/TRV44/TRV52/TRV512/TRV44E)
R991	1-216-829-11	METAL CHIP	4.7K	5%	1/16W (TRV34/TRV44/TRV52/TRV512/TRV44E)
R992	1-216-838-11	METAL CHIP	27K	5%	/16W (TRV34/TRV44/TRV52/TRV512/TRV44E)
R993	1-216-838-11	METAL CHIP	27K	5%	1/16W (TRV34/TRV44/TRV52/TRV512/TRV44E)
R995	1-216-864-11	METAL CHIP	0	5%	1/16W (TRV34/TRV44/TRV52/TRV512/TRV44E)
R996	1-216-864-11	METAL CHIP	0	5%	1/16W (TRV34/TRV44/TRV52/TRV512/TRV44E)
R997	1-216-809-11	METAL CHIP	100	5%	1/16W (TRV32/TRV53/TRV312/TRV14E/TRV24E)

Ref. No.	Part No.	Description	Remarks
		< SWITCH >	
S951	1-771-039-11	SWITCH, PUSH (CAMERA)(TRV14E/TRV24E)	
S951	1-771-040-21	SWITCH, PUSH (CAMERA)(TRV32/TRV312)	
S952	1-771-040-21	SWITCH, PUSH (PLAYER)(TRV14E/TRV24E)	
S952	1-771-039-11	SWITCH, PUSH (PLAYER)(TRV32/TRV312)	

A-7093-273-A PD-74 BOARD, COMPLETE (TRV24E)
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(Ref.No.8,000 Series)

< CAPACITOR >

Ref. No.	Part No.	Description			Remarks
C901	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C902	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C903	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C904	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C905	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C906	1-107-686-11	TANTAL. CHIP	4.7uF	20%	16V
C909	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C910	1-164-816-11	CERAMIC CHIP	220PF	2%	50V
C911	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C912	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C913	1-162-928-11	CERAMIC CHIP	120PF	5%	50V
C915	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C918	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C919	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C920	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C921	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C922	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C923	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C924	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C925	1-135-213-21	TANTAL. CHIP	3.3uF	20%	25V
C951	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C952	1-164-218-11	CERAMIC CHIP	180PF	0.25PF	50V
C953	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C954	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C955	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C956	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C957	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C958	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C959	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C960	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C961	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C962	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C963	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C964	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C965	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C966	1-164-346-11	CERAMIC CHIP	1uF		16V
C967	1-104-911-11	TANTAL. CHIP	33uF	20%	10V
C968	1-164-664-11	CERAMIC CHIP	0.033uF	10%	50V
C969	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C970	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C972	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C973	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C974	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C975	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C976	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V

Ref. No.	Part No.	Description			Remarks
⚠C977	1-113-521-11	CERAMIC CHIP	12PF	10%	3KV
C978	1-164-360-11	CERAMIC CHIP	0.1uF		16V
		< CONNECTOR >			
CN802	1-770-629-21	PIN, CONNECTOR 12P			
CN803	1-691-386-11	CONNECTOR, FFC/FPC 22P			
CN804	1-764-708-21	CONNECTOR, FFC/FPC (LIF) 9P			
CN807	1-766-346-21	CONNECTOR, FFC/FPC 16P			
CN951	1-764-709-11	CONNECTOR, FFC/FPC (LIF) 10P			
		< DIODE >			
D801	8-713-102-80	DIODE	1T369-01-T8A		
D802	8-719-420-51	DIODE	MA729		
D901	8-719-404-49	DIODE	MA111		
D903	8-713-102-80	DIODE	1T369-01-T8A		
D904	8-719-421-27	DIODE	MA728		
D905	8-719-061-82	DIODE	TLSU1002(TPX1,SONY)		
D951	8-719-989-33	DIODE	FC806		
D952	8-719-941-86	DIODE	DAN202U		
D953	8-719-404-49	DIODE	MA111		
D954	8-719-058-86	DIODE	PG1101H-TR		
D955	8-719-404-49	DIODE	MA111		
		< IC >			
IC901	8-759-368-60	IC	CM7012L3-T4		
IC902	8-759-359-49	IC	NJM3414AV(TE2)		
IC951	8-759-060-94	IC	MB3785APFV-G-BND-ER		
		< COIL >			
L901	1-414-754-11	INDUCTOR 10uH			
L902	1-414-753-91	INDUCTOR 4.7uH			
L903	1-412-954-11	INDUCTOR 18uH			
L905	1-414-754-11	INDUCTOR 10uH			
L951	1-412-056-11	INDUCTOR CHIP 4.7uH			
L952	1-412-058-11	INDUCTOR CHIP 10uH			
L953	1-424-674-11	COIL, CHOKE 22uH			
L954	1-409-536-41	COIL, CHOKE 150uH			
L955	1-414-757-11	INDUCTOR 100uH			
L956	1-414-757-11	INDUCTOR 100uH			
L957	1-414-757-11	INDUCTOR 100uH			
		< TRANSISTOR >			
Q901	8-729-402-42	TRANSISTOR	UN5213		
Q906	8-729-420-24	TRANSISTOR	2SB1218A-QRS		
Q952	8-729-402-42	TRANSISTOR	UN5213		
Q955	8-729-823-84	TRANSISTOR	FP102		
Q956	8-729-804-41	TRANSISTOR	2SB1122-S		
Q957	8-729-039-43	TRANSISTOR	FP216-TL		
Q958	8-729-420-24	TRANSISTOR	2SB1218A-QRS		
		< RESISTOR >			
R901	1-216-843-11	METAL CHIP	68K	5%	1/16W
R902	1-216-843-11	METAL CHIP	68K	5%	1/16W
R903	1-216-841-11	METAL CHIP	47K	5%	1/16W
R904	1-216-841-11	METAL CHIP	47K	5%	1/16W
R905	1-216-839-11	METAL CHIP	33K	5%	1/16W
R906	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R907	1-216-840-11	METAL CHIP	39K	5%	1/16W
R908	1-216-821-11	METAL CHIP	1K	5%	1/16W
R909	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R911	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R913	1-218-891-11	METAL GLAZE	68K	0.50%	1/16W
R914	1-216-843-11	METAL CHIP	68K	5%	1/16W
R915	1-216-845-11	METAL CHIP	100K	5%	1/16W
R916	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R917	1-216-841-11	METAL CHIP	47K	5%	1/16W
R918	1-216-838-11	METAL CHIP	27K	5%	1/16W
R920	1-216-857-11	METAL CHIP	1M	5%	1/16W
R921	1-216-837-11	METAL CHIP	22K	5%	1/16W
R922	1-216-833-11	METAL CHIP	10K	5%	1/16W
R923	1-216-837-11	METAL CHIP	22K	5%	1/16W
R927	1-216-845-11	METAL CHIP	100K	5%	1/16W
R928	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R931	1-216-839-11	METAL CHIP	33K	5%	1/16W
R932	1-216-839-11	METAL CHIP	33K	5%	1/16W
R933	1-216-840-11	METAL CHIP	39K	5%	1/16W
R934	1-216-845-11	METAL CHIP	100K	5%	1/16W
R936	1-216-842-11	METAL CHIP	56K	5%	1/16W
R940	1-216-833-11	METAL CHIP	10K	5%	1/16W
R945	1-216-841-11	METAL CHIP	47K	5%	1/16W
R947	1-216-817-11	METAL CHIP	470	5%	1/16W
R949	1-216-833-11	METAL CHIP	10K	5%	1/16W
R951	1-216-833-11	METAL CHIP	10K	5%	1/16W
R952	1-216-840-11	METAL CHIP	39K	5%	1/16W
R953	1-216-833-11	METAL CHIP	10K	5%	1/16W
R954	1-218-895-11	METAL GLAZE	100K	0.50%	1/16W
R955	1-218-885-11	METAL GLAZE	39K	0.50%	1/16W
R957	1-218-883-11	METAL GLAZE	33K	0.50%	1/16W
R959	1-218-871-11	METAL GLAZE	10K	0.50%	1/16W
R960	1-218-885-11	METAL GLAZE	39K	0.50%	1/16W
R961	1-216-864-11	METAL CHIP	0	5%	1/16W
R962	1-218-879-11	METAL GLAZE	22K	0.50%	1/16W
R963	1-218-871-11	METAL GLAZE	10K	0.50%	1/16W
R964	1-218-871-11	METAL GLAZE	10K	0.50%	1/16W
R965	1-218-883-11	METAL GLAZE	33K	0.50%	1/16W
R966	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R967	1-216-821-11	METAL CHIP	1K	5%	1/16W
R968	1-218-863-11	METAL GLAZE	4.7K	0.50%	1/16W
R970	1-216-851-11	METAL CHIP	330K	5%	1/16W
R971	1-216-857-11	METAL CHIP	1M	5%	1/16W
R972	1-216-853-11	METAL CHIP	470K	5%	1/16W
R973	1-216-851-11	METAL CHIP	330K	5%	1/16W
R974	1-216-817-11	METAL CHIP	470	5%	1/16W
R975	1-216-841-11	METAL CHIP	47K	5%	1/16W
R976	1-216-813-11	METAL CHIP	220	5%	1/16W
R977	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R978	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R979	1-216-810-11	METAL CHIP	120	5%	1/16W
R980	1-216-837-11	METAL CHIP	22K	5%	1/16W
R983	1-216-817-11	METAL CHIP	470	5%	1/16W
R988	1-216-840-11	METAL CHIP	39K	5%	1/16W
R989	1-216-845-11	METAL CHIP	100K	5%	1/16W
R991	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R992	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R993	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R994	1-216-831-11	METAL CHIP	6.8K	5%	1/16W

Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

Ref. No.	Part No.	Description			Remarks
		< SWITCH >			
S901	1-572-467-21	SWITCH, PUSH (MIRROR)(1 KEY)			
S992	1-762-833-11	SWITCH, TACTILE (VOLUME –)			
S993	1-762-833-11	SWITCH, TACTILE (VOLUME +)			
S994	1-762-833-11	SWITCH, TACTILE (BRIGHT –)			
S995	1-762-833-11	SWITCH, TACTILE (BRIGHT +)			
		< TRANSFORMER >			
T951	1-431-292-21	TRANSFORMER, DC-DC CONVERTER			
⚠T952	1-429-547-31	TRANSFORMER, INVERTER			

A-7093-270-A PD-75 BOARD, COMPLETE (TRV14E)
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(Ref.No.8,000 Series)

Ref. No.	Part No.	Description			Remarks
		< CAPACITOR >			
C1901	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1903	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1904	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1907	1-162-924-11	CERAMIC CHIP	56PF	5%	50V
C1908	1-107-687-11	TANTAL. CHIP	3.3uF	20%	20V
C1909	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1910	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C1911	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C1913	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1914	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C1915	1-162-926-11	CERAMIC CHIP	82PF	5%	50V
C1916	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1917	1-164-363-11	CERAMIC CHIP	560PF	5%	50V
C1918	1-135-177-21	TANTALUM CHIP	1uF	20%	20V
C1919	1-135-177-21	TANTALUM CHIP	1uF	20%	20V
C1920	1-104-916-11	TANTAL. CHIP	6.8uF	20%	20V
C1921	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1922	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1923	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1924	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1925	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1951	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C1952	1-164-218-11	CERAMIC CHIP	180PF	0.25PF	50V
C1953	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C1954	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1955	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C1956	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C1957	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C1958	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C1960	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C1961	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C1962	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1963	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C1964	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C1965	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C1966	1-164-346-11	CERAMIC CHIP	1uF		16V
C1967	1-104-911-11	TANTAL. CHIP	33uF	20%	10V
C1968	1-164-664-11	CERAMIC CHIP	0.033uF	10%	50V
C1969	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C1970	1-164-005-11	CERAMIC CHIP	0.47uF		25V

Ref. No.	Part No.	Description			Remarks
C1972	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C1973	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C1974	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C1975	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C1976	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
⚠C1977	1-113-521-11	CERAMIC CHIP	12PF	10%	3KV
C1978	1-164-360-11	CERAMIC CHIP	0.1uF		16V
		< CONNECTOR >			
CN1802	1-770-629-21	PIN, CONNECTOR 12P			
CN1803	1-691-388-11	CONNECTOR, FFC/FPC 24P			
CN1804	1-764-708-21	CONNECTOR, FFC/FPC (LIF) 9P			
CN1807	1-766-346-21	CONNECTOR, FFC/FPC 16P			
CN1951	1-764-709-11	CONNECTOR, FFC/FPC (LIF) 10P			
		< DIODE >			
D1902	8-713-102-80	DIODE 1T369-01-T8A			
D1903	8-719-422-41	DIODE MA8051-L-TX			
D1904	8-719-421-27	DIODE MA728			
D1905	8-719-061-82	DIODE TLSU1002(TPX1,SONY)			
D1951	8-719-989-33	DIODE FC806			
D1952	8-719-941-86	DIODE DAN202U			
D1953	8-719-404-49	DIODE MA111			
D1954	8-719-058-86	DIODE PG1101H-TR			
D1955	8-719-404-49	DIODE MA111			
		< IC >			
IC1901	8-759-394-52	IC LZ95NA04			
IC1902	8-759-359-49	IC NJM3414AV(TE2)			
IC1951	8-759-060-94	IC MB3785APFV-G-BND-ER			
		< COIL >			
L1901	1-414-754-11	INDUCTOR 10uH			
L1902	1-414-754-11	INDUCTOR 10uH			
L1903	1-216-295-91	CONDUCTOR, CHIP (2012)			
L1904	1-412-957-11	INDUCTOR 33uH			
L1951	1-412-056-11	INDUCTOR CHIP 4.7uH			
L1952	1-412-058-11	INDUCTOR CHIP 10uH			
L1953	1-424-674-11	COIL, CHOKE 22uH			
L1954	1-409-536-41	COIL, CHOKE 150uH			
L1955	1-414-757-11	INDUCTOR 100uH			
L1956	1-414-757-11	INDUCTOR 100uH			
L1957	1-414-757-11	INDUCTOR 100uH			
		< TRANSISTOR >			
Q1901	8-729-402-42	TRANSISTOR UN5213			
Q1904	8-729-230-63	TRANSISTOR 2SC4116-YG			
Q1905	8-729-420-24	TRANSISTOR 2SB1218A-QRS			
Q1952	8-729-402-42	TRANSISTOR UN5213			
Q1955	8-729-823-84	TRANSISTOR FP102			
Q1956	8-729-804-41	TRANSISTOR 2SB1122-S			
Q1957	8-729-039-43	TRANSISTOR FP216-TL			
Q1958	8-729-420-24	TRANSISTOR 2SB1218A-QRS			
Q1962	8-729-420-24	TRANSISTOR 2SB1218A-QRS			

Note :	**Note :**
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Ref. No.	Part No.	Description			Remarks
		< RESISTOR >			
R1900	1-216-857-11	METAL CHIP	1M	5%	1/16W
R1903	1-218-891-11	METAL GLAZE	68K	0.50%	1/16W
R1904	1-216-845-11	METAL CHIP	100K	5%	1/16W
R1907	1-216-844-11	METAL CHIP	82K	5%	1/16W
R1908	1-216-844-11	METAL CHIP	82K	5%	1/16W
R1909	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1910	1-216-836-11	METAL CHIP	18K	5%	1/16W
R1911	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R1912	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R1913	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1914	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1915	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R1916	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1917	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1918	1-216-838-11	METAL CHIP	27K	5%	1/16W
R1919	1-216-857-11	METAL CHIP	1M	5%	1/16W
R1920	1-216-857-11	METAL CHIP	1M	5%	1/16W
R1921	1-216-843-11	METAL CHIP	68K	5%	1/16W
R1922	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1923	1-216-843-11	METAL CHIP	68K	5%	1/16W
R1924	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1925	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R1926	1-216-839-11	METAL CHIP	33K	5%	1/16W
R1927	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R1928	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1929	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1930	1-216-839-11	METAL CHIP	33K	5%	1/16W
R1931	1-216-845-11	METAL CHIP	100K	5%	1/16W
R1932	1-216-842-11	METAL CHIP	56K	5%	1/16W
R1933	1-216-850-11	METAL CHIP	270K	5%	1/16W
R1934	1-218-883-11	METAL GLAZE	33K	0.50%	1/16W
R1935	1-218-879-11	METAL GLAZE	22K	0.50%	1/16W
R1936	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1937	1-218-883-11	METAL GLAZE	33K	0.50%	1/16W
R1938	1-218-879-11	METAL GLAZE	22K	0.50%	1/16W
R1939	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1940	1-216-864-11	METAL CHIP	0	5%	1/16W
R1943	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1945	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1947	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1949	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1951	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1952	1-216-840-11	METAL CHIP	39K	5%	1/16W
R1953	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1954	1-218-895-11	METAL GLAZE	100K	0.50%	1/16W
R1955	1-218-885-11	METAL GLAZE	39K	0.50%	1/16W
R1956	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1957	1-218-883-11	METAL GLAZE	33K	0.50%	1/16W
R1958	1-216-864-11	METAL CHIP	0	5%	1/16W
R1959	1-218-871-11	METAL GLAZE	10K	0.50%	1/16W
R1960	1-218-885-11	METAL GLAZE	39K	0.50%	1/16W
R1961	1-216-864-11	METAL CHIP	0	5%	1/16W
R1962	1-218-879-11	METAL GLAZE	22K	0.50%	1/16W
R1963	1-218-871-11	METAL GLAZE	10K	0.50%	1/16W
R1964	1-218-877-11	METAL GLAZE	18K	0.50%	1/16W
R1965	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R1966	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R1967	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1968	1-218-863-11	METAL GLAZE	4.7K	0.50%	1/16W
R1970	1-216-851-11	METAL CHIP	330K	5%	1/16W
R1971	1-216-857-11	METAL CHIP	1M	5%	1/16W
R1972	1-216-853-11	METAL CHIP	470K	5%	1/16W
R1973	1-216-851-11	METAL CHIP	330K	5%	1/16W
R1974	1-216-817-11	METAL CHIP	470	5%	1/16W
R1975	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1976	1-216-813-11	METAL CHIP	220	5%	1/16W
R1977	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R1978	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R1979	1-216-810-11	METAL CHIP	120	5%	1/16W
R1980	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1983	1-216-817-11	METAL CHIP	470	5%	1/16W
R1987	1-216-845-11	METAL CHIP	100K	5%	1/16W
R1991	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R1992	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R1993	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R1994	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
		< SWITCH >			
S1901	1-572-467-21	SWITCH, PUSH (MIRROR)(1 KEY)			
S1992	1-771-029-21	SWITCH, TACTILE (VOLUME –)			
S1993	1-771-029-21	SWITCH, TACTILE (VOLUME +)			
S1994	1-771-029-21	SWITCH, TACTILE (BRIGHT –)			
S1995	1-771-029-21	SWITCH, TACTILE (BRIGHT +)			
		< TRANSFORMER >			
T1951	1-431-291-11	TRANSFORMER, DC-DC CONVERTER			
⚠T1952	1-429-547-31	TRANSFORMER, INVERTER			
	A-7093-279-A	PD-76 BOARD, COMPLETE **********************			(TRV44/TRV52/TRV512)
	A-7093-281-A	PD-76 BOARD, COMPLETE (TRV44E) **********************			
					(Ref.No.8,000 Series)
		< CAPACITOR >			
C806	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C808	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C810	1-107-685-11	TANTAL. CHIP	15uF	20%	6.3V
C811	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C812	1-104-912-11	TANTAL. CHIP	3.3uF	20%	6.3V
C813	1-135-333-11	TANTAL. CHIP	1uF	20%	16V
C814	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C816	1-162-963-11	CERAMIC CHIP	680PF	10%	50V (TRV44E)
C818	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C820	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (TRV44E)
C822	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C823	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (TRV44E)
C825	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C826	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (TRV44E)
C827	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (TRV44E)

Note :	**Note :**
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Ref. No.	Part No.	Description			Remarks
C828	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C829	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C832	1-162-926-11	CERAMIC CHIP	82PF	5%	50V
					(TRV44E)
C835	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
					(TRV44E)
C835	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
					(TRV34/TRV44/TRV52/TRV512)
C836	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
					(TRV44E)
C836	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
					(TRV34/TRV44/TRV52/TRV512)
C837	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
					(TRV44E)
C837	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
					(TRV34/TRV44/TRV52/TRV512)
C838	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C839	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C840	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C841	1-135-214-21	TANTAL. CHIP	4.7uF	20%	20V
C842	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C844	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C900	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C901	1-104-916-11	TANTAL. CHIP	6.8uF	20%	20V
C902	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C903	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C904	1-107-685-11	TANTAL. CHIP	15uF	20%	6.3V
C905	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C906	1-107-686-11	TANTAL. CHIP	4.7uF	20%	16V
C909	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C910	1-164-363-11	CERAMIC CHIP	560PF	5%	50V
C911	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C912	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C913	1-162-926-11	CERAMIC CHIP	82PF	5%	50V
C914	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C915	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C916	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C917	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C918	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C919	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C920	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C951	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C952	1-164-218-11	CERAMIC CHIP	180PF	0.25PF	50V
C953	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C954	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C955	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C956	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C957	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C958	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C959	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C960	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C961	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C962	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C963	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C964	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C965	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C966	1-164-346-11	CERAMIC CHIP	1uF		16V
C967	1-104-911-11	TANTAL. CHIP	33uF	20%	10V
C968	1-164-664-11	CERAMIC CHIP	0.033uF	10%	50V
C970	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C971	1-164-505-11	CERAMIC CHIP	2.2uF		16V

Ref. No.	Part No.	Description			Remarks
C972	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C973	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C974	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C975	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C976	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
⚠C977	1-113-521-11	CERAMIC CHIP	12PF	10%	3KV
C978	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C979	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
		< CONNECTOR >			
CN801	1-770-627-21	PIN, CONNECTOR 10P			
CN802	1-770-629-21	PIN, CONNECTOR 12P			
CN803	1-573-366-21	CONNECTOR, FFC/FPC 26P			
CN804	1-764-708-21	CONNECTOR, FFC/FPC (LIF) 9P			
CN805	1-764-709-11	CONNECTOR, FFC/FPC (LIF) 10P			
CN808	1-573-929-11	CONNECTOR, FFC/FPC (ZIF) 20P			
		< DIODE >			
D801	8-713-102-80	DIODE 1T369-01-T8A (TRV44E)			
D901	8-719-404-49	DIODE MA111			
D903	8-713-102-80	DIODE 1T369-01-T8A			
D904	8-719-421-27	DIODE MA728			
D905	8-719-061-82	DIODE TLSU1002(TPX1,SONY)			
D951	8-719-989-33	DIODE FC806			
D952	8-719-941-86	DIODE DAN202U			
D953	8-719-404-49	DIODE MA111			
D954	8-719-404-49	DIODE MA111			
		< IC >			
IC801	8-752-067-59	IC CXA1785R-T4			
IC802	8-759-355-92	IC AK9813AF-E2			
IC900	8-759-073-95	IC SED1510FOC-T4			
IC901	8-759-443-40	IC CM7013L1-T4			
IC902	8-759-359-49	IC NJM3414AV(TE2)			
IC951	8-759-060-94	IC MB3785APFV-G-BND-ER			
		< COIL >			
L803	1-414-755-11	INDUCTOR 22uH			
L804	1-412-956-21	INDUCTOR 27uH (TRV44E)			
L805	1-414-754-11	INDUCTOR 10uH			
L901	1-414-754-11	INDUCTOR 10uH			
L902	1-216-295-91	CONDUCTOR, CHIP (2012)			
L903	1-414-754-11	INDUCTOR 10uH			
L904	1-412-951-11	INDUCTOR 10uH			
L951	1-412-056-11	INDUCTOR CHIP 4.7uH			
L952	1-412-058-11	INDUCTOR CHIP 10uH			
L953	1-424-674-11	COIL, CHOKE 22uH			
L954	1-409-536-41	COIL, CHOKE 150uH			
L955	1-414-757-11	INDUCTOR 100uH			
L956	1-414-757-11	INDUCTOR 100uH			
L957	1-414-757-11	INDUCTOR 100uH			

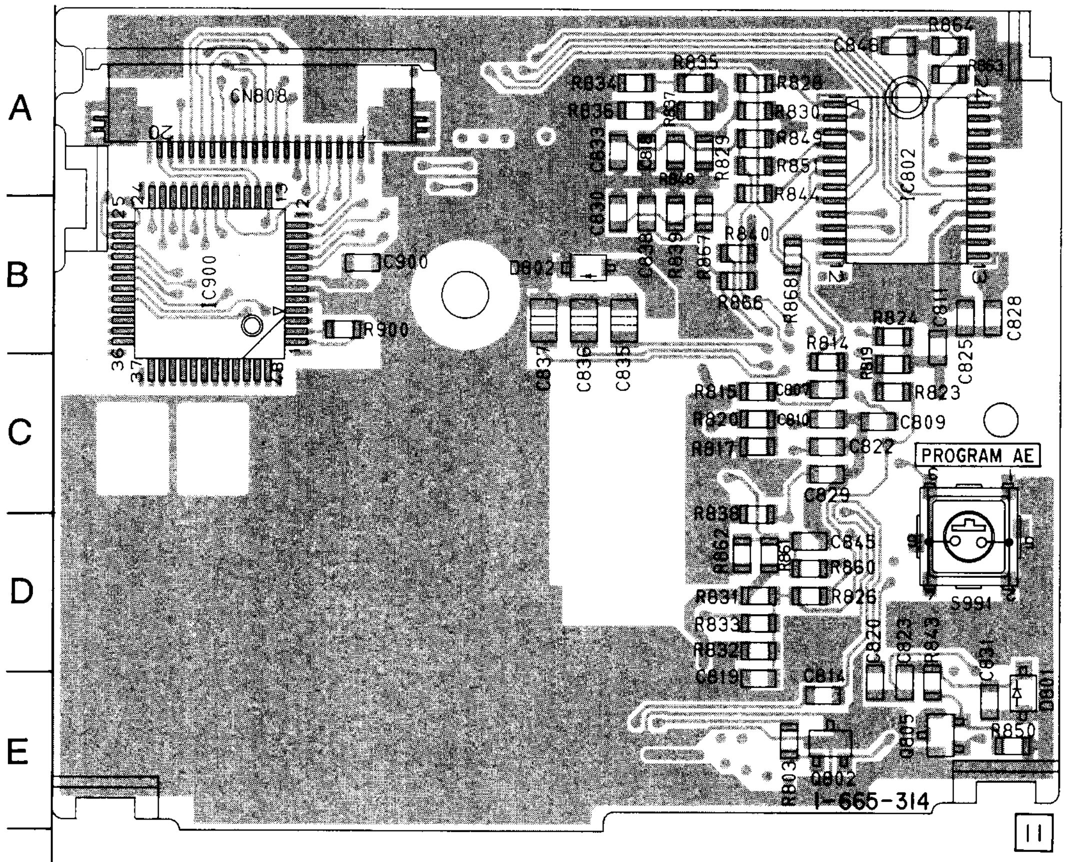
Note :	**Note :**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SD-24 (RGB) PRINTED WIRING BOARD

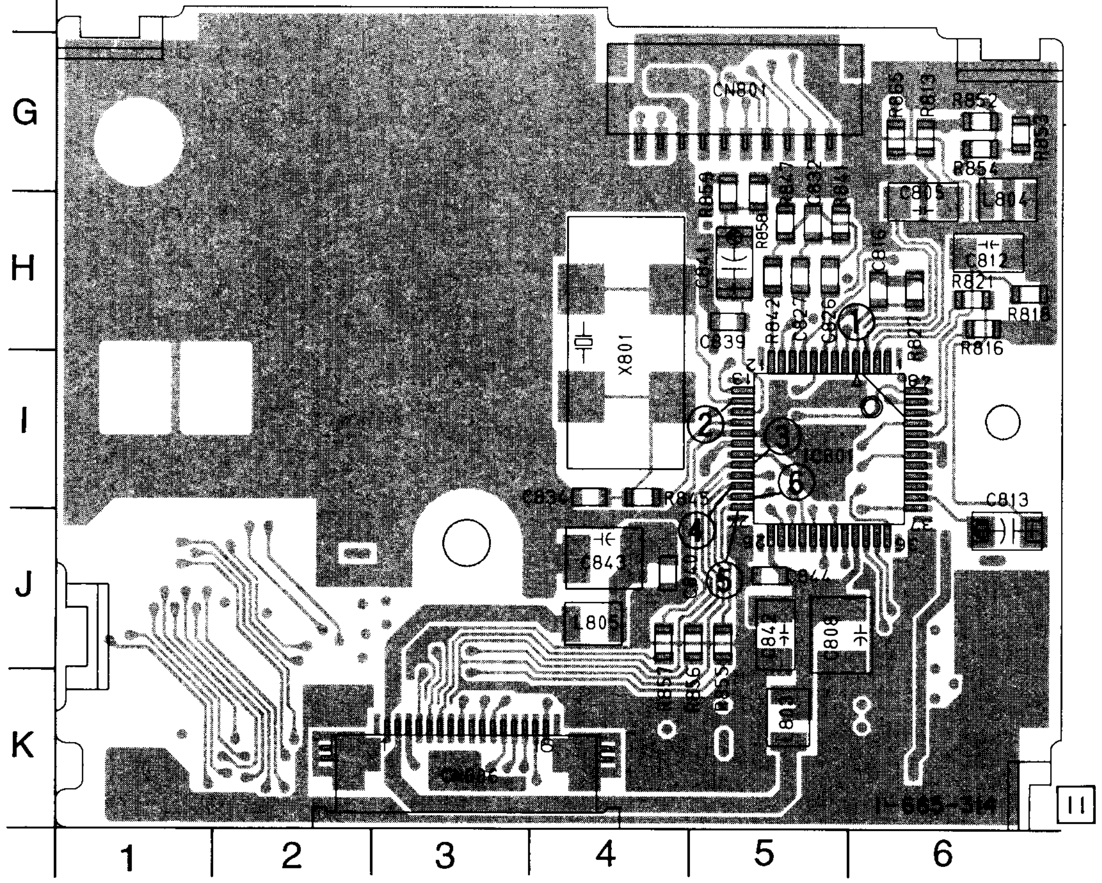
— Ref. No. SD-24 Board; 8,000 Series —

There are few cases that the part printed on this diagram isn't mounted in this model.

SD-24 BOARD (SIDE A)


A
B
C
D
E
CN808
IC900
C900
R900
Q802
R834
R835
R836
R828
R830
R849
R851
R847
R864
R863
C846
IC802
C833
C830
C838
R839
R867
R840
R866
R868
R824
C811
C825
C828
C837
C836
C835
R814
R819
R815
R820
R817
R823
C809
C822
C829
R838
R862
C845
R860
R831
R826
R833
R832
C819
C814
C820
C823
R843
C831
Q801
Q805
R850
R803
Q802
PROGRAM AE
S991
1-665-314
11

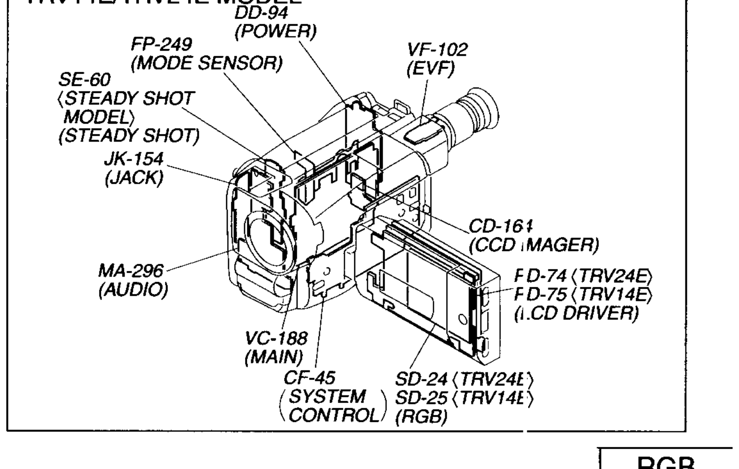
SD-24 BOARD (SIDE B)


F
G
H
I
J
K
1
2
3
4
5
6
CN801
R865
R813
R852
R853
R854
C805
L804
C812
R821
R818
R816
R858
R859
R847
C832
R841
C816
R842
C839
C841
X801
IC801
C813
C844
R845
C843
L805
R847
L803
R855
R856
R857
CN806
1-665-314
11

SD-24 BOARD

C805	G-6
C808	J-5
C809	C-6
C811	B-6
C812	H-6
C813	I-6
C814	D-5
C816	H-5
C818	A-4
C820	D-6
C822	C-6
C823	D-6
C825	B-6
C826	H-5
C827	H-5
C828	B-6
C829	D-5
C832	G-5
C835	C-4
C836	C-4
C837	C-3
C838	B-4
C839	H-5
C840	J-4
C841	H-5
C843	J-4
C844	J-5
C846	A-6
C900	B-3
CN801	G-5
CN806	K-3
CN808	A-2
IC801	I-5
IC802	A-6
IC900	B-1
L803	K-5
L804	G-6
L805	J-4
Q802	E-5
Q805	E-6
R803	E-5
R813	G-6
R814	C-5
R815	C-5
R816	H-6
R817	C-5
R818	H-6
R819	C-6
R820	C-5
R821	H-6
R824	B-6
R827	H-6
R828	A-5
R829	A-5
R830	A-5
R831	D-5
R832	E-5
R833	D-5
R834	A-5
R835	A-5
R836	A-5
R837	A-5
R838	C-5
R839	B-5
R840	B-5
R841	H-5
R842	H-5
R843	E-6
R844	A-5
R845	I-5
R847	G-5
R848	A-5
R849	A-5
R850	E-6
R851	A-5
R854	G-6
R855	K-5
R856	K-4
R857	K-4
R858	H-5
R859	H-5
R862	D-5
R863	A-6
R864	A-6
R865	G-6
R900	B-3
S991	D-6
X801	I-4

TRV14E/TRV24E MODEL


DD-94
(POWER)
FP-249
(MODE SENSOR)
VF-102
(EVF)
SE-60
(STEADY SHOT
MODEL)
(STEADY SHOT)
JK-154
(JACK)
CD-161
(CCD IMAGER)
FD-74 (TRV24E)
FD-75 (TRV14E)
(LCD DRIVER)
MA-296
(AUDIO)
VC-188
(MAIN)
CF-45
(SYSTEM
CONTROL)
SD-24 (TRV24E)
SD-25 (TRV14E)
(RGB)

PD-75 (LCD DRIVER) PRINTED WIRING BOARD

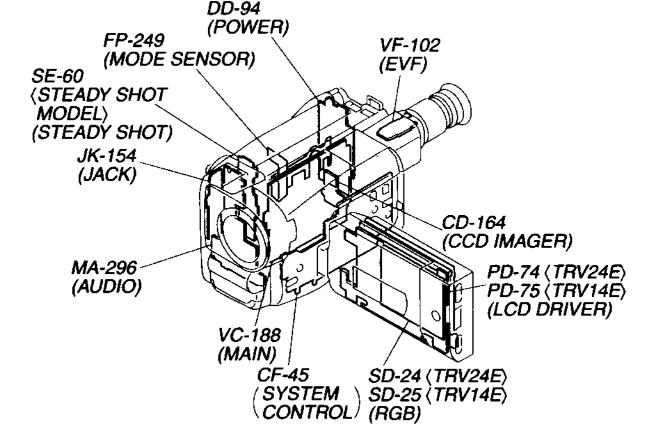
— Ref. No. PD-75 Board; 8,000 Series —

There are few cases that the part printed on this diagram isn't mounted in this model.

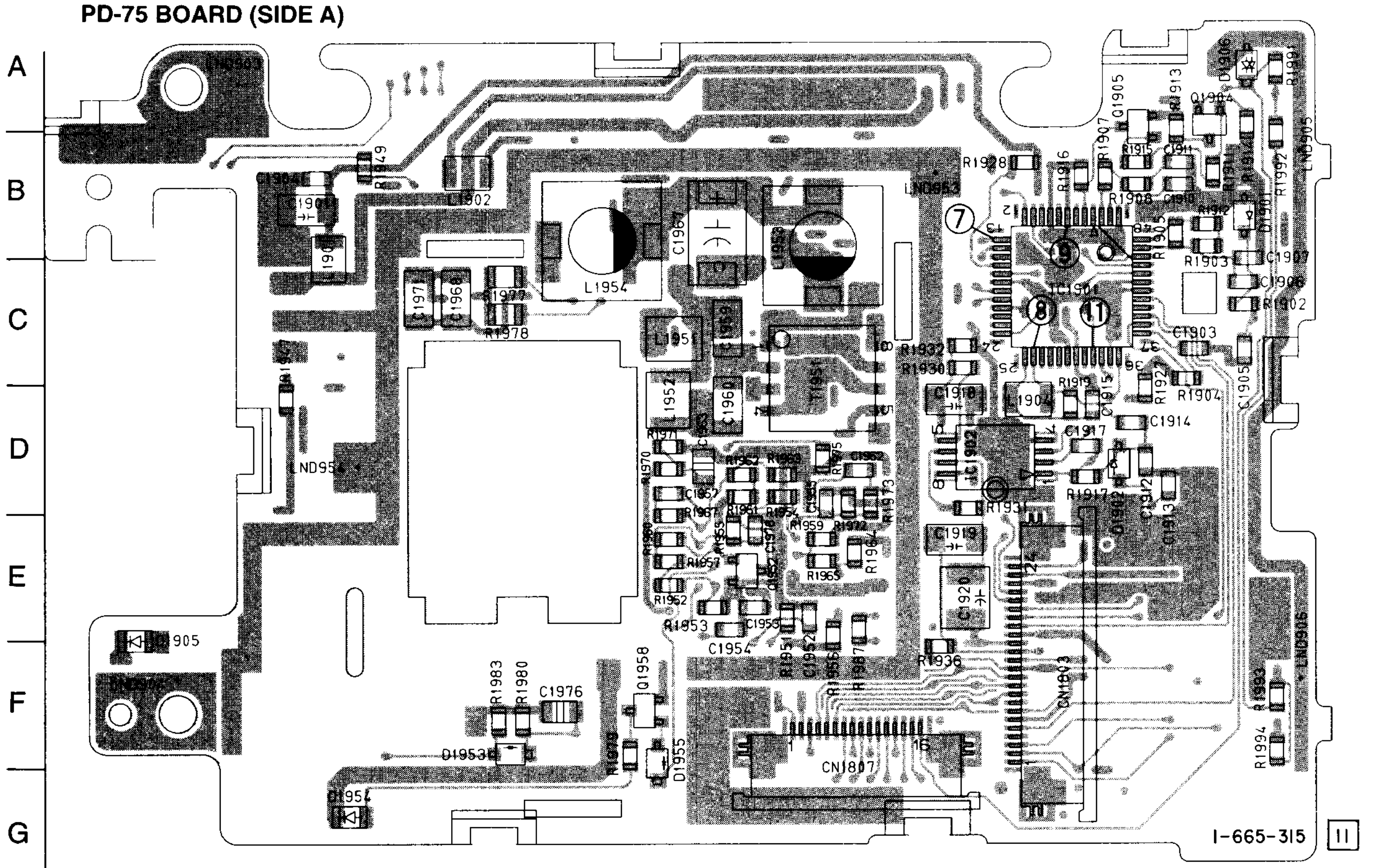
PD-75 BOARD

C1901	B-3	C1978	E-6	R1904	C-9	R1958	N-6
C1903	C-9			R1907	B-9	R1959	D-7
C1904	B-2	CN1802	M-3	R1908	B-9	R1960	E-5
C1907	B-10	CN1803	F-9	R1909	K-9	R1961	D-6
C1908	N-7	CN1804	H-8	R1910	K-9	R1962	D-6
C1909	N-7	CN1807	F-8	R1911	B-9	R1963	D-6
C1910	B-9	CN1951	I-3	R1912	B-9	R1964	E-7
C1911	B-9			R1913	A-9	R1965	E-7
C1913	D-10	D1902	D-9	R1914	B-9	R1966	J-7
C1914	C-9	D1903	J-3	R1915	B-9	R1967	D-6
C1915	C-9	D1904	L-9	R1916	B-9	R1968	J-7
C1916	K-9	D1905	F-1	R1917	D-8	R1970	D-5
C1917	C-9	D1951	L-7	R1918	J-10	R1971	D-5
C1918	C-8	D1952	K-6	R1919	D-8	R1972	D-7
C1919	E-9	D1953	F-4	R1920	K-9	R1973	D-7
C1920	E-9	D1954	G-3	R1921	K-9	R1974	K-7
C1921	J-9	D1955	F-53	R1922	L-9	R1975	D-7
C1922	J-9			R1923	L-8	R1976	K-5
C1923	J-8	IC1901	C-8	R1924	L-8	R1977	C-5
C1924	J-8	IC1902	D-8	R1925	L-8	R1978	C-5
C1925	L-10	IC1951	J-6	R1926	J-10	R1979	F-5
C1951	M-5			R1927	D-9	R1980	F-4
C1952	F-6	L1901	C-3	R1928	B-8	R1983	F-4
C1953	E-6	L1902	B-4	R1929	J-7	R1987	F-7
C1954	F-6	L1903	N-7	R1930	C-7	R1991	A-10
C1955	E-6	L1904	C-8	R1931	D-8	R1992	B-10
C1956	K-7	L1951	C-5	R1932	C-7	R1993	F-10
C1957	E-6	L1952	D-5	R1933	K-8	R1994	F-10
C1958	K-6	L1953	B-7	R1934	J-9		
C1960	C-6	L1954	C-5	R1935	J-9	S1901	L-1
C1961	K-5	L1955	M-7	R1936	E-7	S1992	N-10
C1962	D-7	L1956	L-7	R1937	I-8	S1993	M-10
C1963	D-6	L1957	M-6	R1938	I-8	S1994	I-10
C1964	K-7			R1939	J-8	S1995	H-10
C1965	L-5	Q1901	L-9	R1940	I-9		
C1966	M-5	Q1904	A-9	R1943	L-8	T1951	C-7
C1967	B-5	Q1905	A-9	R1945	L-9	T1952	K-4
C1968	C-4	Q1952	E-6	R1947	C-2		
C1969	M-6	Q1955	M-6	R1949	B-2		
C1970	L-7	Q1956	L-6	R1951	F-7		
C1972	M-7	Q1957	M-5	R1952	E-5		
C1973	M-7	Q1958	F-5	R1953	E-6		
C1974	K-7	Q1962	J-7	R1954	D-6		
C1975	M-7			R1955	E-6		
C1976	F-5	R1900	C-10	R1956	F-7		
C1977	J-3	R1903	B-10	R1957	E-6		

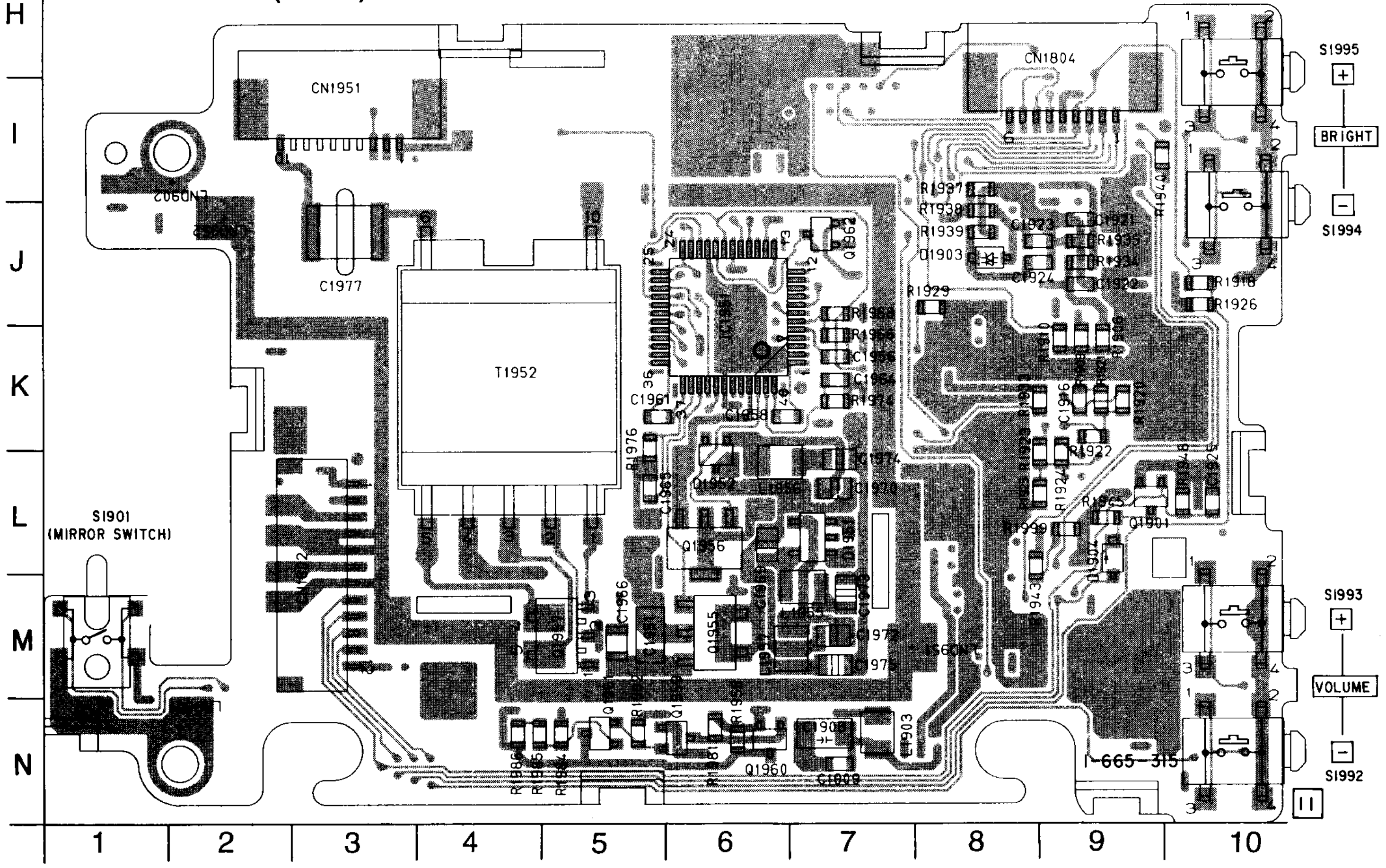
TRV14E/TRV24E MODEL


DD-94
(POWER)
FP-249
(MODE SENSOR)
VF-102
(EVF)
SE-60
(STEADY SHOT MODEL)
(STEADY SHOT)
JK-154
(JACK)
CD-164
(CCD IMAGER)
MA-296
(AUDIO)
PD-74 (TRV24E)
PD-75 (TRV14E)
(LCD DRIVER)
VC-188
(MAIN)
CF-45
(SYSTEM CONTROL)
SD-24 (TRV24E)
SD-25 (TRV14E)
(RGB)

PD-75 BOARD (SIDE A)

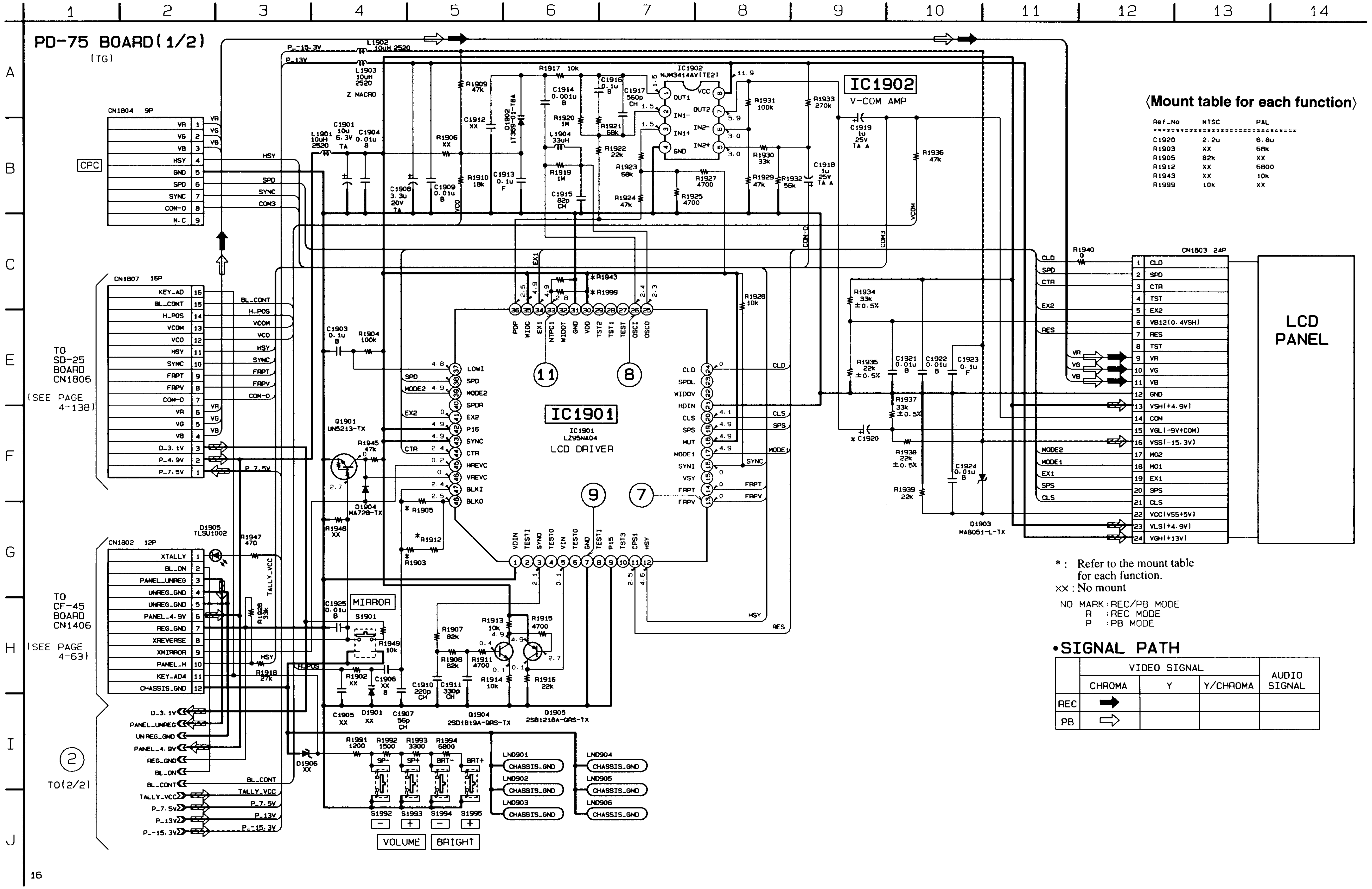

A
B
C
D
E
F
G
L1902
L1954
CN1807
IC1901
IC1902
T1951
D1905
D1953
D1954
C1976
R1983
R1980
Q1958
D1955
CN1803
LND905
LND906
1-665-315
11

PD-75 BOARD (SIDE B)


H
I
J
K
L
M
N
1
2
3
4
5
6
7
8
9
10
CN1951
CN1804
C1977
T1952
S1901
(MIRROR SWITCH)
S1995
+
BRIGHT
−
S1994
S1993
+
VOLUME
−
S1992
Q1960
1-665-315
11

PD-75 (LCD DRIVER) SCHEMATIC DIAGRAM

— Ref. No. PD-75 Board; 8,000 Series —


1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J
PD-75 BOARD(1/2)
(TG)
CPC
CN1804 9P
VR 1
VG 2
VB 3
HSY 4
GND 5
SPD 6
SYNC 7
COM-O 8
N.C 9
CN1807 16P
KEY_AD 16
BL_CONT 15
H_POS 14
VCOM 13
VCO 12
HSY 11
SYNC 10
FRPT 9
FRPV 8
COM-O 7
VR 6
VG 5
VB 4
D_3.1V 3
P_4.9V 2
P_7.5V 1
TO SD-25 BOARD CN1806
(SEE PAGE 4-138)
CN1802 12P
XTALLY 1
BL_ON 2
PANEL_UNREG 3
UNREG_GND 4
UNREG_GND 5
PANEL_4.9V 6
REG_GND 7
XREVERSE 8
XMIRROR 9
PANEL_H 10
KEY_AD4 11
CHASSIS_GND 12
TO CF-45 BOARD CN1406
(SEE PAGE 4-63)
D_3.1V
PANEL_UNREG
UNREG_GND
PANEL_4.9V
REG_GND
BL_ON
BL_CONT
TALLY_VCC
P_7.5V
P_13V
P_-15.3V
②
TO(2/2)
16
D1905 TLSU1002
R1947 470
R1926 33k
R1918 27k
D1906 XX
P_-15.3V
P_13V
L1902 10uH 2520
L1903 10uH 2520
Z MACRO
L1901 10uH 2520
C1901 10u 6.3V TA
C1904 0.01u B
C1903 0.1u B
R1904 100k
Q1901 UN5213-TX
R1945 47k
D1904 MA728-TX
R1948 XX
C1925 0.01u B
MIRROR
S1901
R1949 10k
R1902 XX
C1906 XX B
C1910 220p CH
C1911 330p CH
C1905 XX
D1901 XX
C1907 56p CH
Q1904 2SD1819A-QRS-TX
Q1905 2SB1218A-QRS-TX
R1907 82k
R1908 82k
R1911 4700
R1913 10k
R1914 10k
R1915 4700
R1916 22k
R1991 1200
R1992 1500
R1993 3300
R1994 6800
SP-
SP+
BRT-
BRT+
S1992
S1993
S1994
S1995
VOLUME
BRIGHT
LND901 CHASSIS_GND
LND902 CHASSIS_GND
LND903 CHASSIS_GND
LND904 CHASSIS_GND
LND905 CHASSIS_GND
LND906 CHASSIS_GND
R1909 47k
R1906 XX
C1908 3.3u 20V TA
C1909 0.01u B
C1912 XX
R1910 18k
C1913 0.1u F
D1902 1T369-01-T8A
R1917 10k
C1914 0.001u B
R1920 1M
L1904 33uH
R1919 1M
C1915 82p CH
C1916 0.1u B
C1917 560p CH
R1921 68k
R1922 22k
R1923 68k
R1924 47k
R1925 4700
R1927 4700
IC1902 NJM3414AV(TE2)
OUT1
IN1-
IN1+
GND
VCC
OUT2
IN2-
IN2+
IC1902
V-COM AMP
R1931 100k
R1933 270k
R1930 33k
R1929 47k
R1932 56k
C1918 1u 25V TA A
C1919 1u 25V TA A
R1936 47k
VCO
COM-O
COM3
EX1
*R1943
*R1999
R1928 10k
IC1901
IC1901 LZ95NA04
LCD DRIVER
PDP
WIDC
EX1
NTPC1
WIDOT
GND
VDD
TST2
TST1
TEST
OSCI
OSCO
LOWI
SPD
MODE2
SPDR
EX2
P16
SYNC
CTR
HREVC
VREVC
BLKI
BLKO
CLD
SPDL
WIDOV
HDIN
CLS
SPS
MUT
MODE1
SYNI
VSY
FRPT
FRPV
VDIN
TESTI
SYNO
TESTO
VIN
TESTO
GND
TESTI
P15
TST3
CPS1
HSY
⑪
⑧
⑨
⑦
*R1905
*R1912
*R1903
R1934 33k ±0.5%
R1935 22k ±0.5%
R1937 33k ±0.5%
R1938 22k ±0.5%
R1939 22k
C1921 0.01u B
C1922 0.01u B
C1923 0.1u F
C1924 0.01u B
*C1920
D1903 MA8051-L-TX
R1940 0
CN1803 24P
1 CLD
2 SPD
3 CTR
4 TST
5 EX2
6 VB12(0.4VSH)
7 RES
8 TST
9 VR
10 VG
11 VB
12 GND
13 VSH(+4.9V)
14 COM
15 VGL(-9V+COM)
16 VSS(-15.3V)
17 MO2
18 MO1
19 EX1
20 SPS
21 CLS
22 VCC(VSS+5V)
23 VLS(+4.9V)
24 VGH(+13V)
LCD PANEL

⟨Mount table for each function⟩

Ref_No	NTSC	PAL
C1920	2.2u	6.8u
R1903	XX	68k
R1905	82k	XX
R1912	XX	6800
R1943	XX	10k
R1999	10k	XX

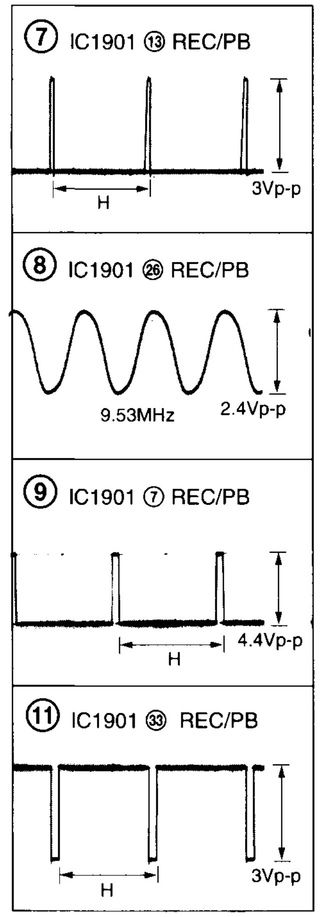
* : Refer to the mount table for each function.
XX : No mount

NO MARK : REC/PB MODE
R : REC MODE
P : PB MODE

•SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡			
PB	⇨			

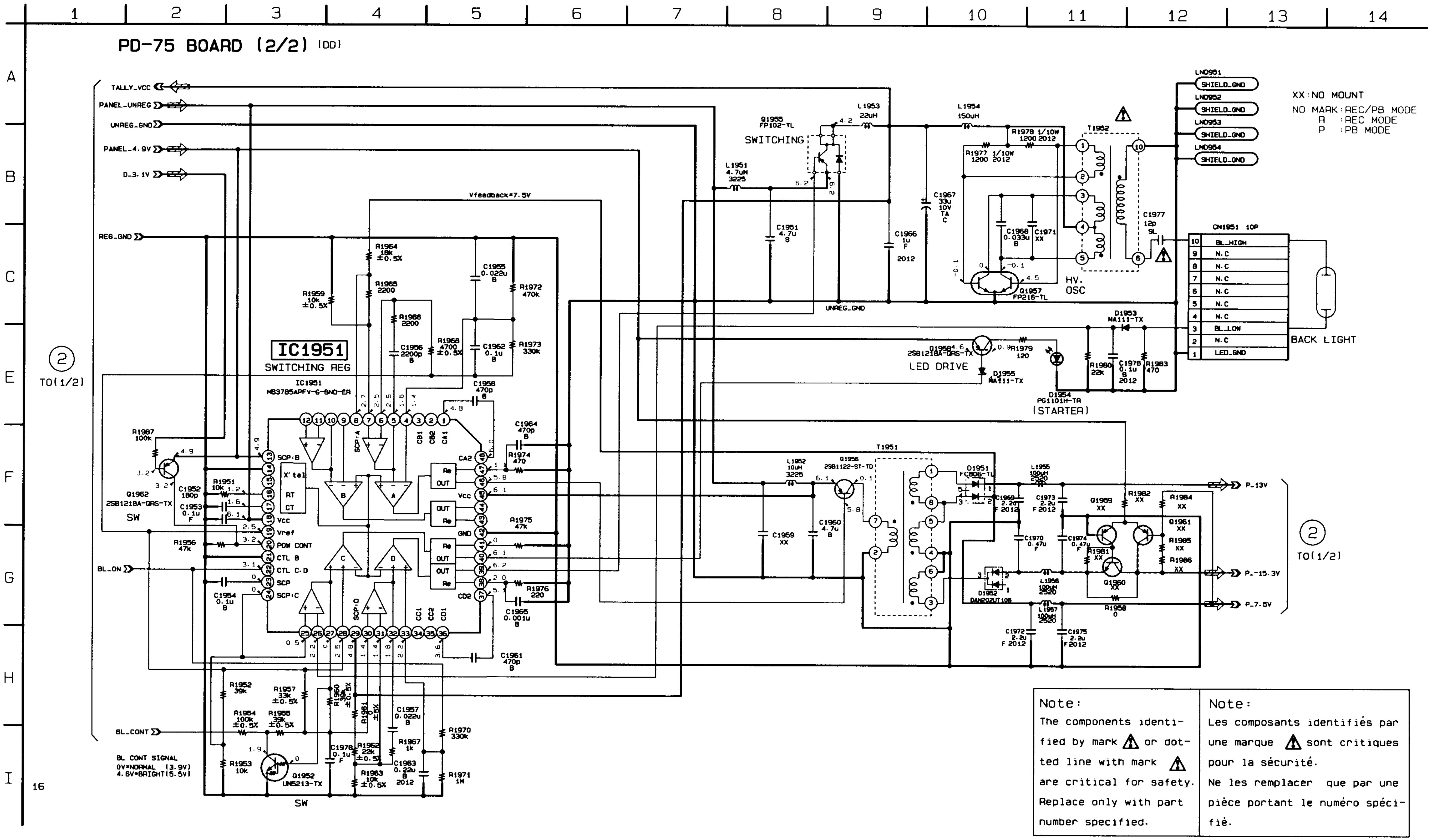
PD-75 BOARD (1/2)



PD-75 (LCD DRIVER) SCHEMATIC DIAGRAM

— Ref. No. PD-75 Board; 8,000 Series —

- See page 4-129 for PD-75 BOARD printed wiring board.

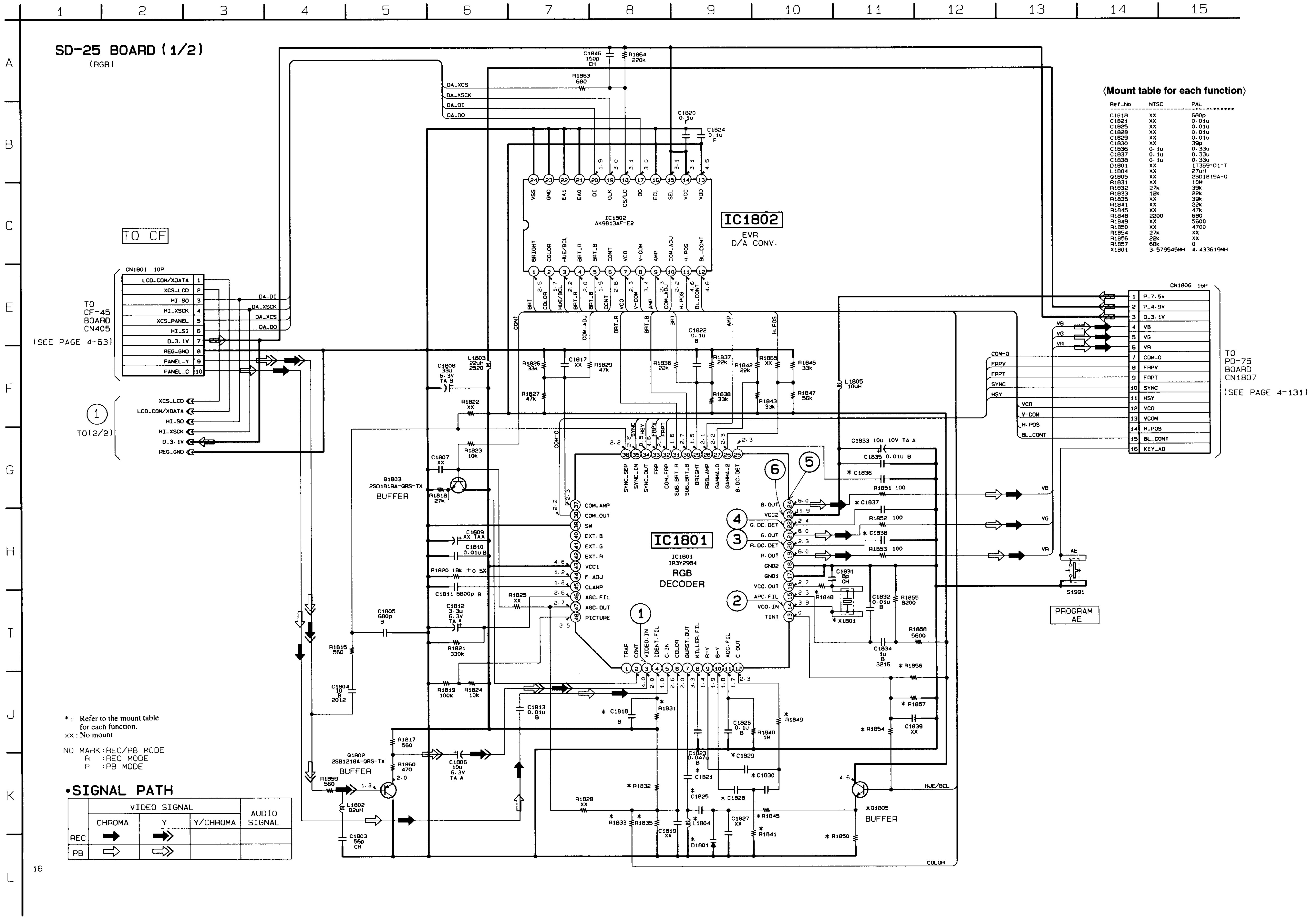

1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C E F G H I
PD-75 BOARD (2/2) (DD)
TALLY_VCC
PANEL_UNREG
UNREG_GND
PANEL_4.9V
D-3.1V
REG_GND
BL_ON
BL_CONT
BL CONT SIGNAL
0V=NORMAL (3.9V)
4.6V=BRIGHT(5.5V)
② TO(1/2)
IC1951
SWITCHING REG
IC1951
MB3785APFV-G-BND-ER
Vfeedback=7.5V
Q1962
2SB1218A-QRS-TX
SW
Q1952
UN5213-TX
SW
Q1955
FP102-TL
SWITCHING
L1951
4.7uH
3225
L1953
22uH
L1954
150uH
C1967
33u
10V
TA
C
C1966
1u
F
2012
C1951
4.7u
B
R1978 1/10W
1200 2012
R1977 1/10W
1200 2012
T1952
C1968
0.033u
B
C1971
XX
Q1957
FP216-TL
HV.
OSC
C1977
12p
SL
UNREG_GND
LND951
LND952
LND953
LND954
SHIELD_GND
XX:NO MOUNT
NO MARK:REC/PB MODE
R :REC MODE
P :PB MODE
CN1951 10P
10 BL_HIGH
9 N.C
8 N.C
7 N.C
6 N.C
5 N.C
4 N.C
3 BL_LOW
2 N.C
1 LED_GND
BACK LIGHT
D1953
MA111-TX
Q1958
2SB1218A-QRS-TX
LED DRIVE
D1955
MA111-TX
R1979
120
D1954
PG1101H-TR
(STARTER)
R1980
22k
C1976
0.1u
B
2012
R1983
470
T1951
L1952
10uH
3225
Q1956
2SB1122-ST-TD
D1951
FC806-TL
L1955
100uH
2520
C1959
XX
C1960
4.7u
B
C1969
2.2u
F 2012
C1973
2.2u
F 2012
C1970
0.47u
F
C1974
0.47u
F
Q1959
XX
R1982
XX
R1984
XX
Q1961
XX
R1985
XX
R1986
XX
R1981
XX
Q1960
XX
L1956
100uH
2520
L1957
100uH
2520
R1958
0
D1952
DAN202UT106
C1972
2.2u
F 2012
C1975
2.2u
F 2012
P_13V
P_-15.3V
P_7.5V
R1964
18k
±0.5%
R1965
2200
R1959
10k
±0.5%
R1966
2200
C1956
2200p
B
R1968
4700
±0.5%
C1955
0.022u
B
C1962
0.1u
B
R1972
470k
R1973
330k
C1958
470p
B
C1964
470p
B
R1974
470
R1975
47k
R1976
220
C1965
0.001u
B
C1961
470p
B
R1987
100k
C1952
180p
R1951
10k
C1953
0.1u
F
R1956
47k
C1954
0.1u
B
SCP:B
X'tal
RT
CT
Vcc
Vref
POW CONT
CTL B
CTL C.D
SCP
SCP:C
SCP:A
SCP:D
CB1 CB2 CA1
CA2
CD2
CC1 CC2 CD1
Re
OUT
VCC
GND
A B C D
R1952
39k
R1957
33k
±0.5%
R1954
100k
±0.5%
R1955
39k
±0.5%
R1953
10k
R1960
39k
±0.5%
R1961
18k
±0.5%
C1978
0.1u
F
R1962
22k
±0.5%
R1963
10k
±0.5%
C1957
0.022u
B
R1967
1k
C1963
0.22u
B
2012
R1970
330k
R1971
1M
16

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SD-25 (RGB) SCHEMATIC DIAGRAM

— Ref. No. SD-25 Board; 8,000 Series —

• See page 4-143 for SD-25 BOARD printed wiring board.


SD-25 BOARD (1/2)
(RGB)
TO CF
TO CF-45 BOARD CN405 (SEE PAGE 4-63)
CN1801 10P
LCD_COM/XDATA
XCS_LCD
HI_SO
HI_XSCK
XCS_PANEL
HI_SI
D_3.1V
REG_GND
PANEL_Y
PANEL_C
DA_DI
DA_XSCK
DA_XCS
DA_DO
TO(2/2)
IC1802
AK9813AF-E2
EVR
D/A CONV.
IC1801
IR3Y29B4
RGB
DECODER
Q1803
2SD1819A-QRS-TX
BUFFER
Q1802
2SB1218A-QRS-TX
BUFFER
Q1805
BUFFER
CN1806 16P
P_7.5V
P_4.9V
D_3.1V
VB
VG
VR
COM_O
FRPV
FRPT
SYNC
HSY
VCO
VCOM
H_POS
BL_CONT
KEY_AD
TO PD-75 BOARD CN1807 (SEE PAGE 4-131)
S1991
PROGRAM AE
X1801
HUE/BCL
COLOR
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
A B C D E F G H I J K L
16

⟨Mount table for each function⟩

Ref_No	NTSC	PAL
C1818	XX	680p
C1821	XX	0.01u
C1825	XX	0.01u
C1828	XX	0.01u
C1829	XX	0.01u
C1830	XX	39p
C1836	0.1u	0.33u
C1837	0.1u	0.33u
C1838	0.1u	0.33u
D1801	XX	1T369-01-T
L1804	XX	27uH
Q1805	XX	2SD1819A-Q
R1831	XX	10M
R1832	27k	39k
R1833	12k	22k
R1835	XX	39k
R1841	XX	22k
R1845	XX	47k
R1848	2200	680
R1849	XX	5600
R1850	XX	4700
R1854	27k	XX
R1856	22k	XX
R1857	68k	0
X1801	3.579545MH	4.433619MH

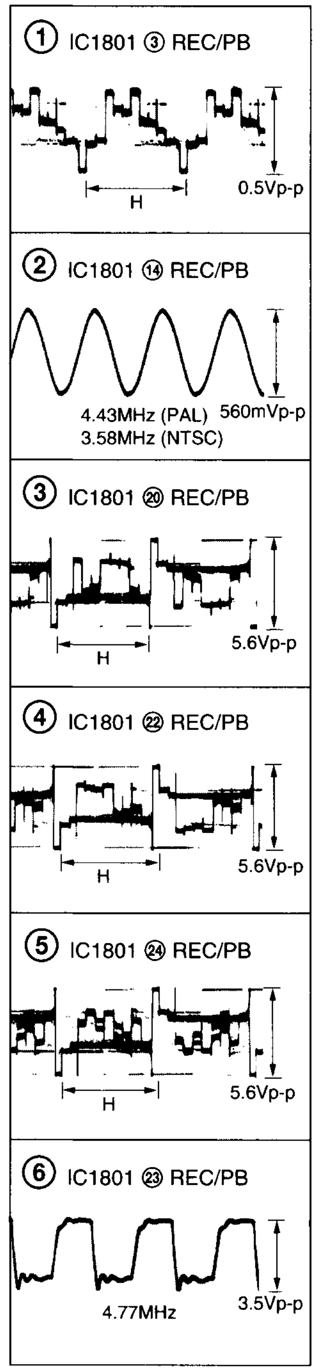
* : Refer to the mount table for each function.
xx : No mount

NO MARK : REC/PB MODE
R : REC MODE
P : PB MODE

•SIGNAL PATH

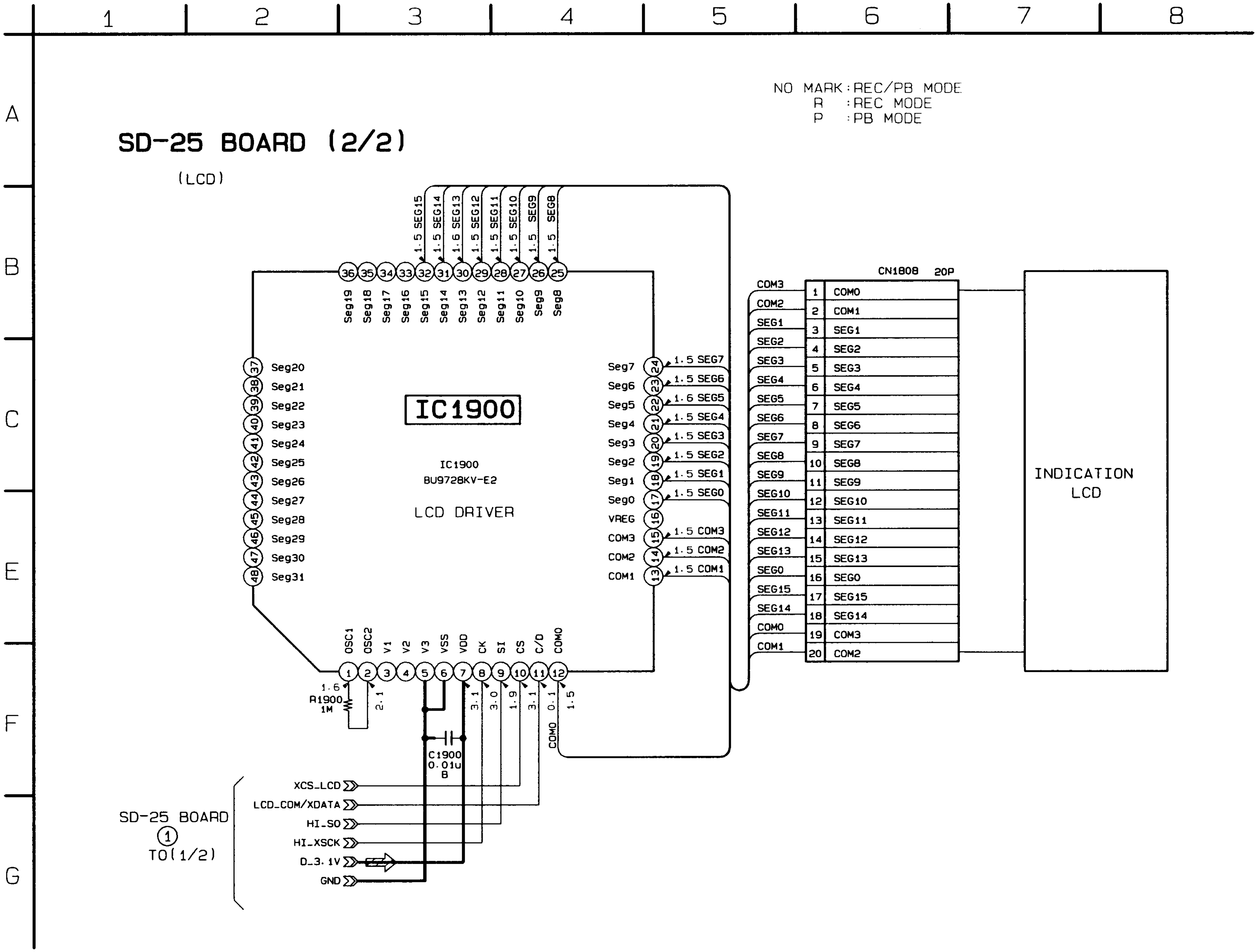
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡»		
PB	⇨	⇨»		

SD-25 BOARD (1/2)



SD-25 (RGB) SCHEMATIC DIAGRAM

— Ref. No. SD-25 Board; 8,000 Series —

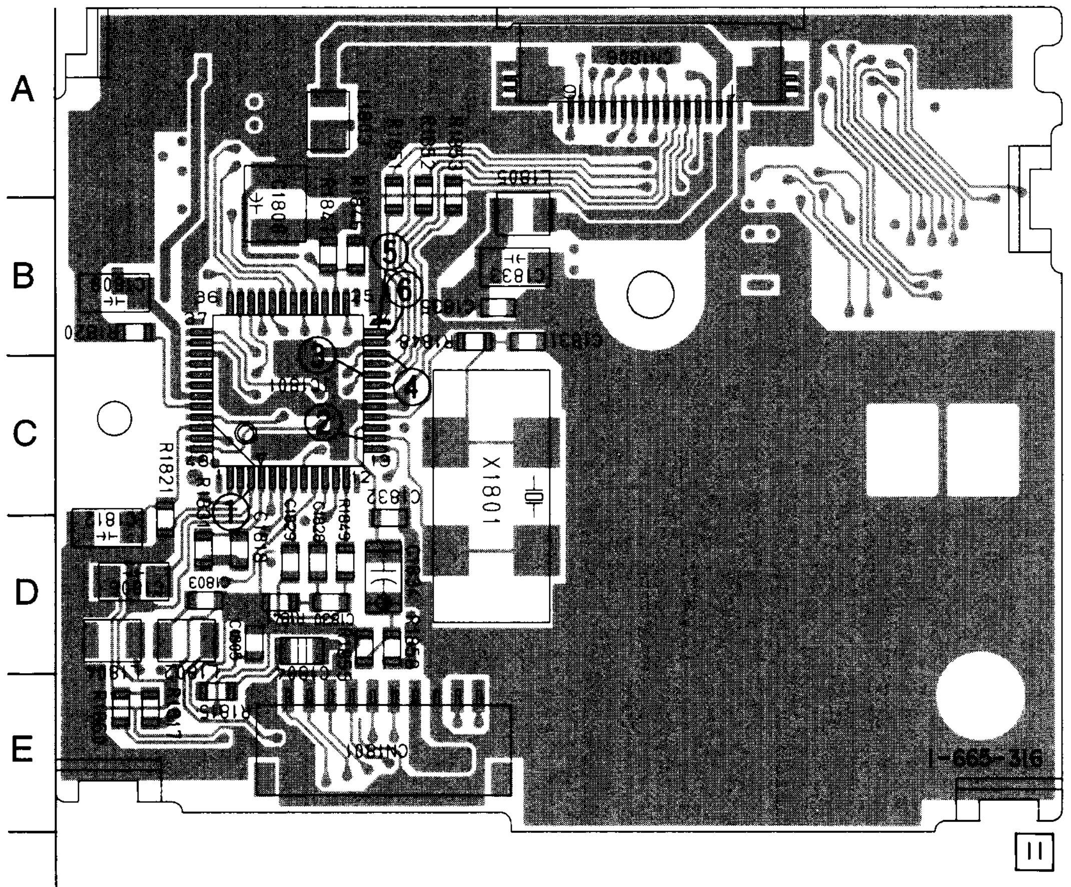

1
2
3
4
5
6
7
8
A
B
C
D
E
F
G
NO MARK : REC/PB MODE
R : REC MODE
P : PB MODE
SD-25 BOARD (2/2)
(LCD)
IC1900
IC1900
BU9728KV-E2
LCD DRIVER
Seg19
Seg18
Seg17
Seg16
Seg15
Seg14
Seg13
Seg12
Seg11
Seg10
Seg9
Seg8
1.5 SEG15
1.5 SEG14
1.6 SEG13
1.5 SEG12
1.5 SEG11
1.5 SEG10
1.5 SEG9
1.5 SEG8
Seg20
Seg21
Seg22
Seg23
Seg24
Seg25
Seg26
Seg27
Seg28
Seg29
Seg30
Seg31
Seg7
Seg6
Seg5
Seg4
Seg3
Seg2
Seg1
Seg0
VREG
COM3
COM2
COM1
1.5 SEG7
1.5 SEG6
1.6 SEG5
1.5 SEG4
1.5 SEG3
1.5 SEG2
1.5 SEG1
1.5 SEG0
1.5 COM3
1.5 COM2
1.5 COM1
OSC1
OSC2
V1
V2
V3
VSS
VDD
CK
SI
CS
C/D
COM0
1.6
2.1
3.1
3.0
1.9
3.1
0.1
1.5
COM0
R1900
1M
C1900
0.01u
B
CN1808 20P
COM3
COM2
SEG1
SEG2
SEG3
SEG4
SEG5
SEG6
SEG7
SEG8
SEG9
SEG10
SEG11
SEG12
SEG13
SEG0
SEG15
SEG14
COM0
COM1
1 COM0
2 COM1
3 SEG1
4 SEG2
5 SEG3
6 SEG4
7 SEG5
8 SEG6
9 SEG7
10 SEG8
11 SEG9
12 SEG10
13 SEG11
14 SEG12
15 SEG13
16 SEG0
17 SEG15
18 SEG14
19 COM3
20 COM2
INDICATION LCD
SD-25 BOARD
①
TO(1/2)
XCS_LCD
LCD_COM/XDATA
HI_SO
HI_XSCK
D_3.1V
GND

SD-25 (RGB) PRINTED WIRING BOARD

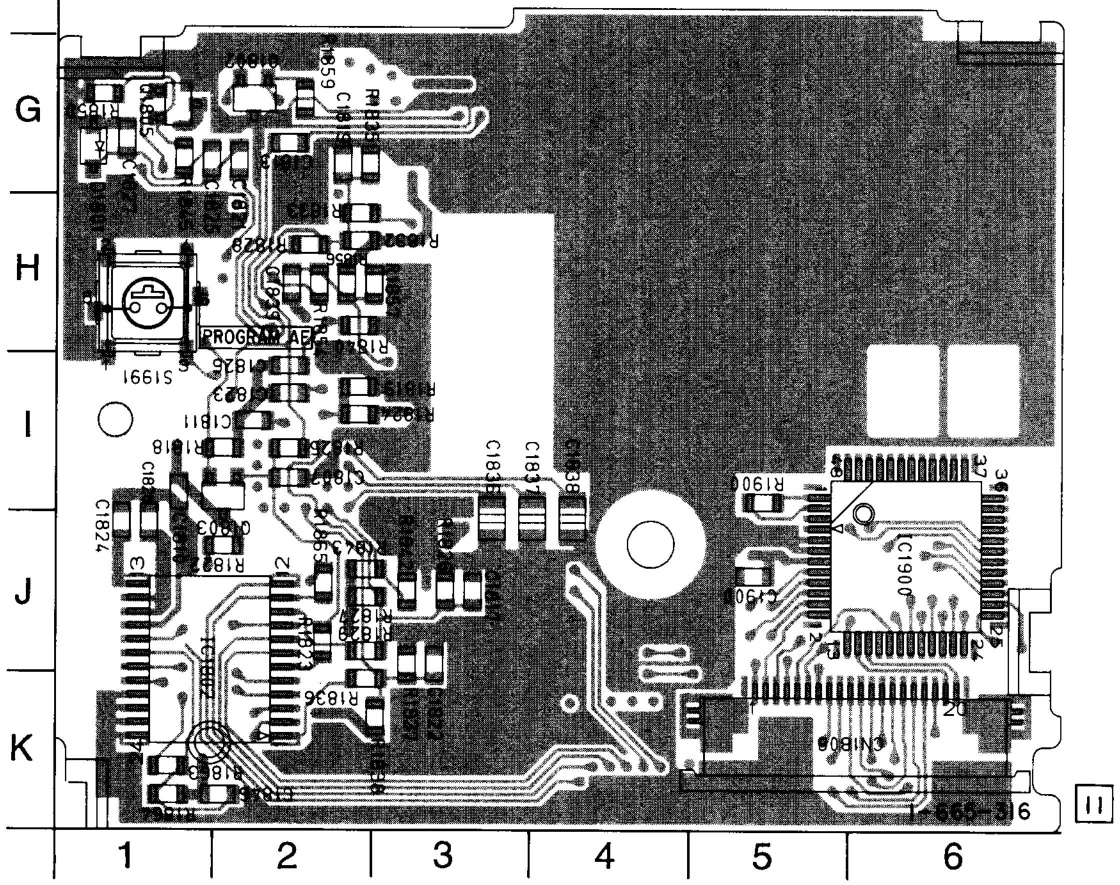
— Ref. No. SD-25 Board; 8,000 Series —

There are few cases that the part printed on this diagram isn't mounted in this model.

SD-25 BOARD (SIDE A)


A
B
C
D
E
X1801
IC1801
CN1801
1-665-316

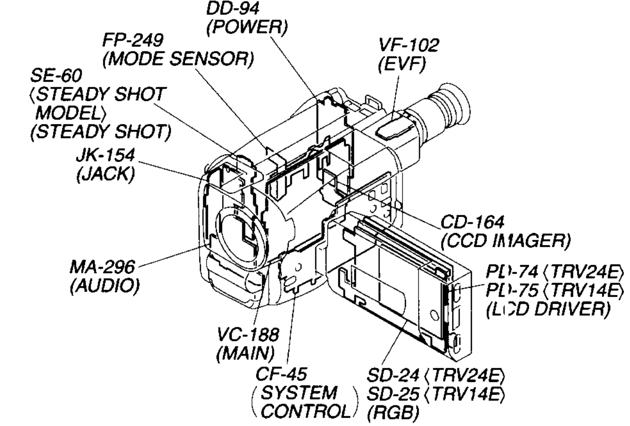
SD-25 BOARD (SIDE B)


F
G
H
I
J
K
1
2
3
4
5
6
PROGRAM AE
S1991
IC1900
CN1808
1-665-316

SD-25 BOARD

C1804	D-2	Q1805	G-1
C1805	D-2		
C1806	D-1	R1815	E-2
C1808	B-2	R1817	E-1
C1810	I-1	R1818	I-1
C1811	I-2	R1819	I-3
C1812	D-1	R1820	B-1
C1813	G-2	R1821	C-1
C1818	D-2	R1823	J-2
C1820	I-2	R1824	I-3
C1821	G-2	R1826	J-3
C1822	J-3	R1827	J-2
C1823	I-2	R1829	J-2
C1824	I-1	R1831	C-2
C1825	G-2	R1832	H-3
C1826	I-2	R1833	H-2
C1828	D-2	R1835	G-2
C1829	D-2	R1836	K-2
C1830	D-2	R1837	J-3
C1831	B-4	R1838	K-3
C1832	C-3	R1840	H-3
C1833	B-4	R1841	D-2
C1834	D-3	R1842	J-3
C1835	B-3	R1843	J-2
C1836	I-3	R1845	G-1
C1837	I-4	R1846	B-3
C1838	I-4	R1847	B-3
C1846	K-2	R1848	B-3
C1900	J-5	R1849	D-3
		R1850	G-1
CN1801	E-3	R1851	A-3
CN1806	A-4	R1852	A-3
CN1808	K-5	R1853	A-3
		R1855	D-3
D1801	G-1	R1857	H-2
		R1858	D-3
IC1801	C-2	R1859	G-2
IC1802	J-1	R1860	E-1
IC1900	J-6	R1863	K-1
		R1864	K-1
L1803	A-2		
L1804	D-1	S1991	I-1
L1805	A-4		
		X1801	C-4
Q1802	G-2		
Q1803	J-1		

TRV14E/TRV24E MODEL


DD-94
(POWER)
FP-249
(MODE SENSOR)
VF-102
(EVF)
SE-60
⟨STEADY SHOT
MODEL⟩
(STEADY SHOT)
JK-154
(JACK)
CD-164
(CCD IMAGER)
MA-296
(AUDIO)
PD-74 ⟨TRV24E⟩
PD-75 ⟨TRV14E⟩
(LCD DRIVER)
VC-188
(MAIN)
CF-45
(SYSTEM
CONTROL)
SD-24 ⟨TRV24E⟩
SD-25 ⟨TRV14E⟩
(RGB)

SECTION 5
REPAIR PARTS LIST

5-1. EXPLODED VIEWS

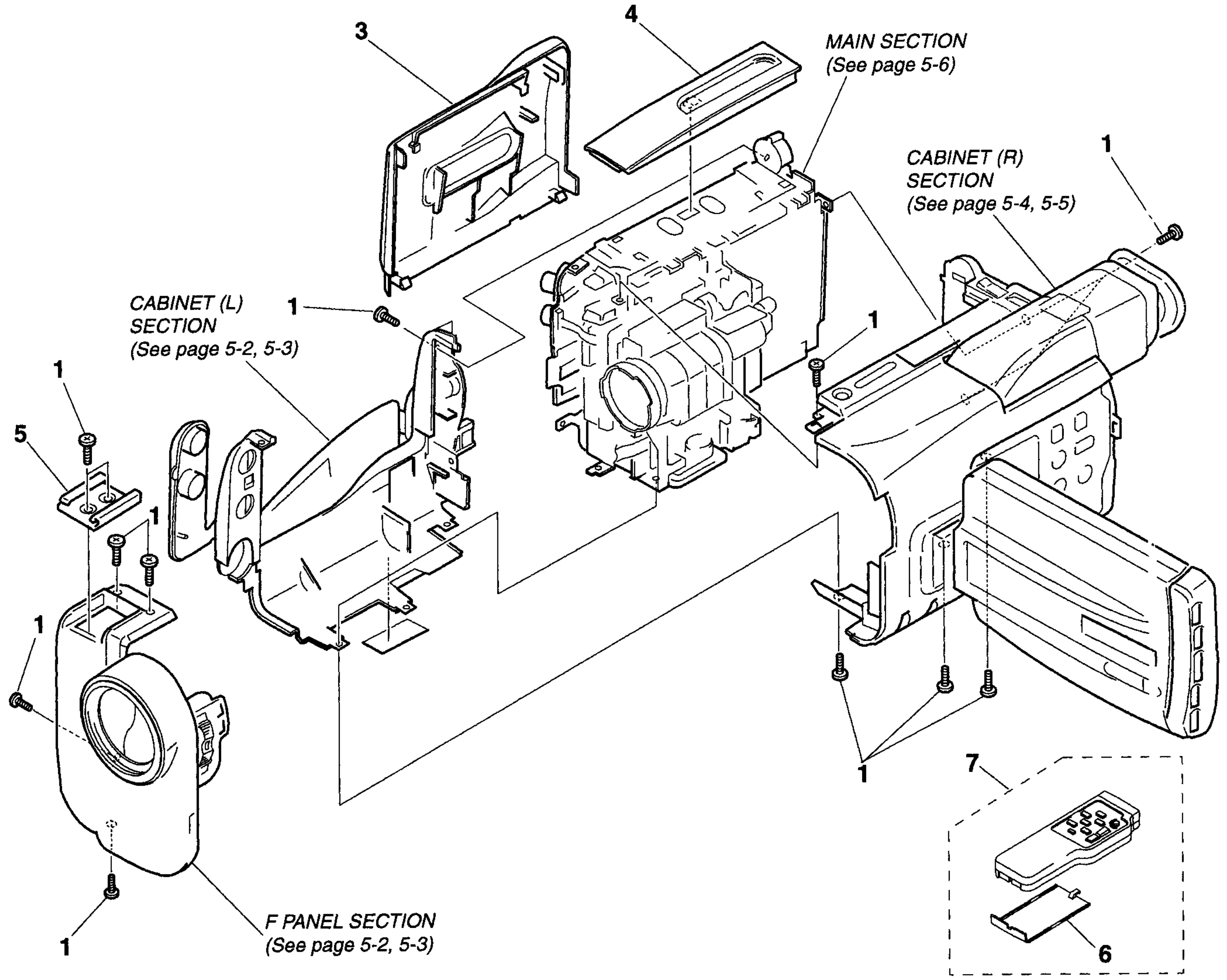
NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

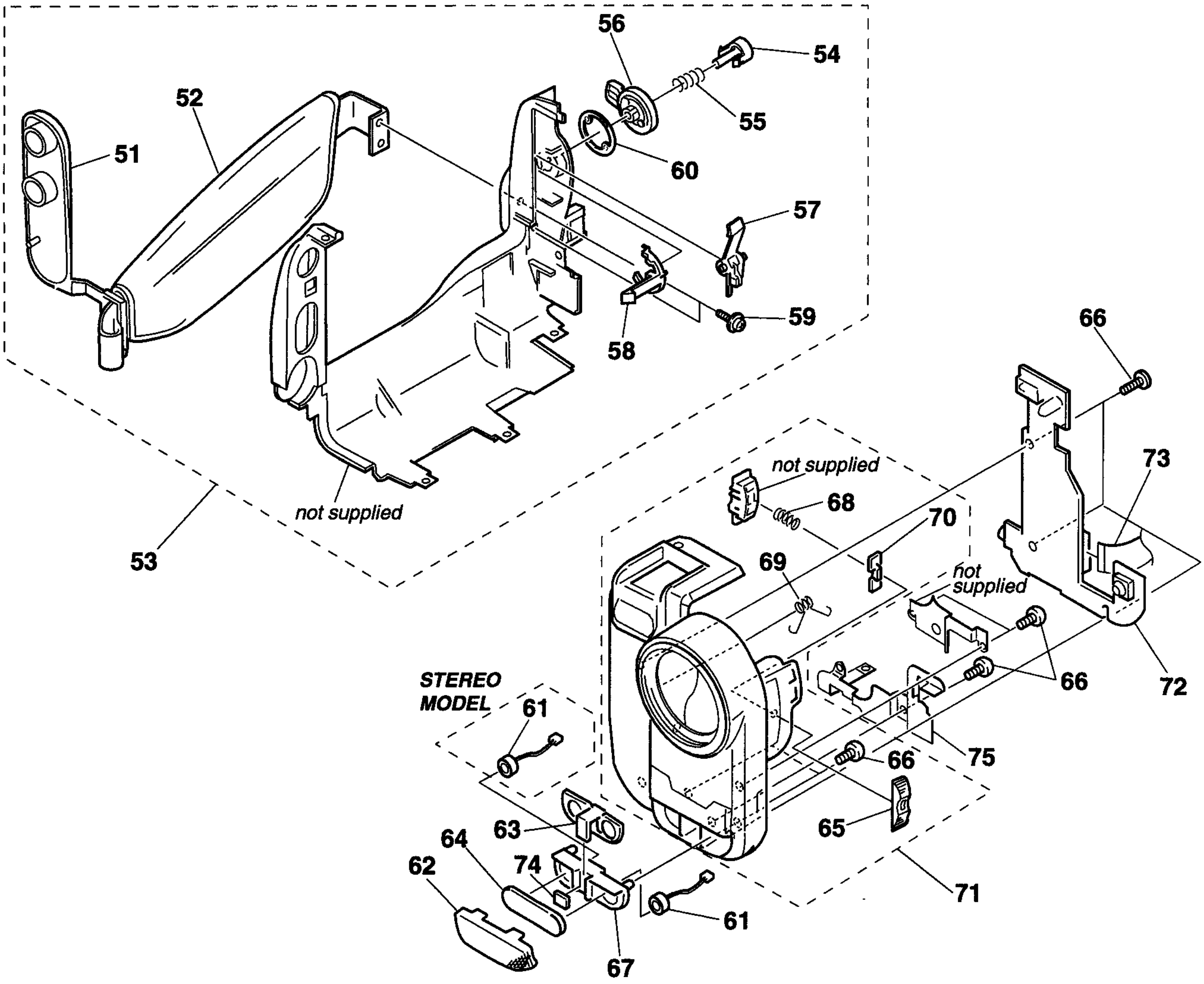
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

5-1-1. OVERALL SECTION


3
4
MAIN SECTION
(See page 5-6)
CABINET (R)
SECTION
(See page 5-4, 5-5)
1
CABINET (L)
SECTION
(See page 5-2, 5-3)
1
1
5
1
1
1
1
7
6
1
F PANEL SECTION
(See page 5-2, 5-3)

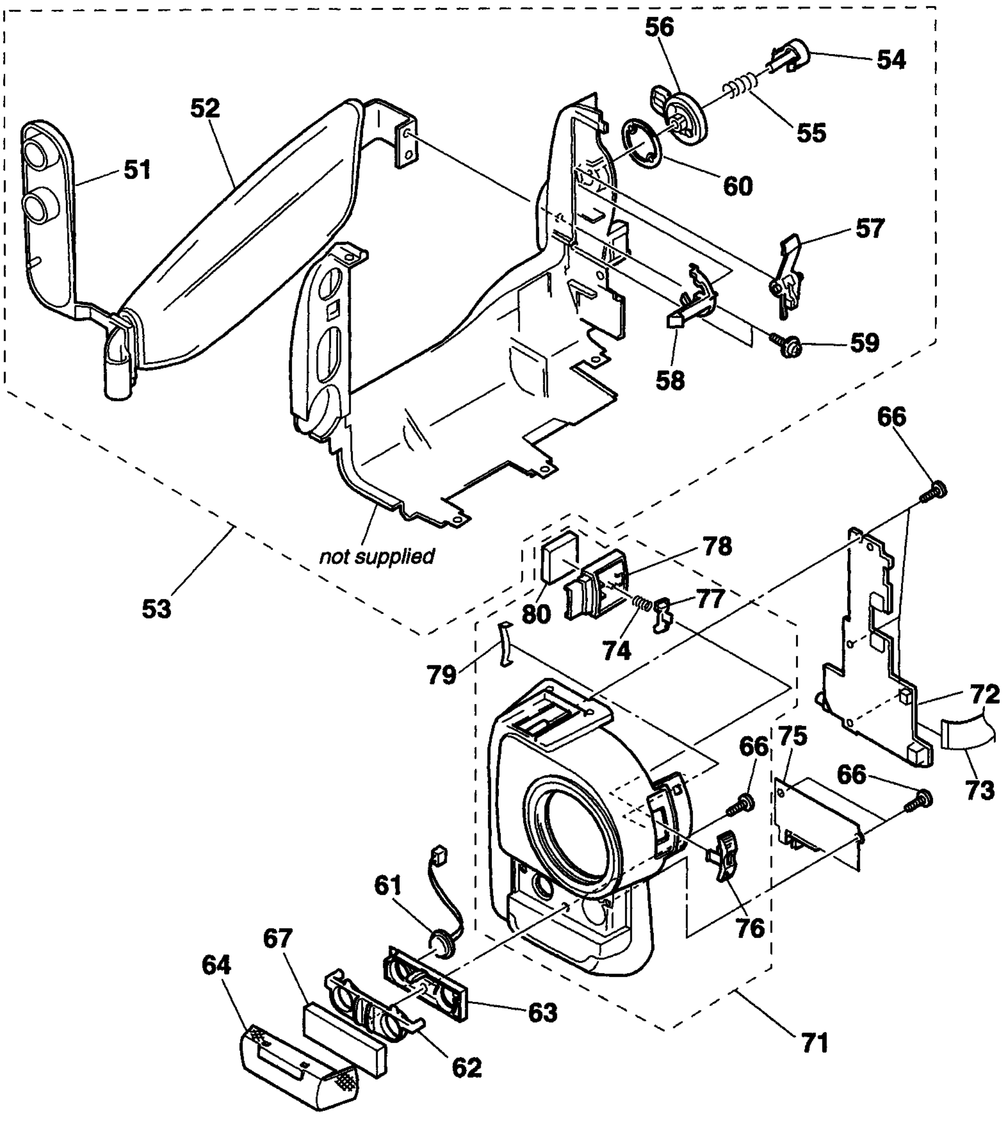
Ref. No.	Part No.	Description	Remarks
1	3-962-826-01	SCREW (2X4)	
3	X-3945-446-1	LID ASSY, CASSETTE (TRV312/TRV512)	
3	X-3947-229-1	LID ASSY (G), CASSETTE (EXCEPT TRV312/TRV512)	
4	3-975-365-01	LID, LS (EXCEPT TRV312/TRV512)	
4	3-975-365-11	LID, LS (TRV312/TRV512)	
5	3-975-363-01	SHOE, ACCESSORY	
6	3-958-131-01	COVER,BATTERY REMOCON	
7	1-473-342-11	REMOTE COMMANDER (RMT-713)	

5-1-2 (1). CABINET (L), F PANEL SECTION (EXCEPT TRV14E/TRV24E MODEL)



Ref. No.	Part No.	Description	Remarks
51	3-965-888-01	COVER, JACK (BLACK)(TRV312)	
51	3-965-888-21	COVER, JACK (GRAY)(EXCEPT TRV312)	
52	3-969-339-31	BELT, GRIP	
53	X-3947-072-1	CABINET (L) ASSY (TRV312)	
53	X-3947-230-1	CABINET (L) ASSY (TRV32/TRV53)	
53	X-3947-256-1	CABINET (L) ASSY (TRV34/TRV44/TRV52/TRV44E)	
53	X-3947-420-1	CABINET (L) ASSY (TRV512)	
54	3-965-844-01	BUTTON, S/S	
55	3-965-830-01	SPRING, COMPRESSION	
56	3-942-985-01	KNOB, STAND-BY	
57	3-965-870-01	PLATE, S/S JOINT	
58	3-965-869-01	HOLDER, KNOB	
59	3-730-107-01	SCREW (M2X2.2)	
60	3-736-364-01	SPRING	
61	1-542-312-11	BOOK, MICRO	
62	3-976-104-01	GRILLE, MIC	
63	3-976-101-01	HOUSING, MICROPHONE	
64	3-976-103-02	SCREEN, WINDOW	
65	3-975-476-01	KNOB (832), POWER	
66	3-719-601-01	SCREW (B2X5),TAPPING	
67	3-976-102-01	RETAINER, MICROPHONE	
68	3-973-619-01	SPRING, COMPRESSION	
69	3-976-621-01	SPRING, TORSION	
70	3-975-478-01	LOCK, POWER	
71	X-3947-324-1	PANEL ASSY, F (TRV32)	
71	X-3947-334-1	PANEL ASSY, F (TRV34/TRV44/TRV44E)	
71	X-3947-336-1	PANEL ASSY, F(TRV53)	
71	X-3947-422-1	PANEL ASSY, F (TRV52)	
71	X-3947-423-1	PANEL ASSY, F (TRV512)	
71	X-3947-466-1	PANEL ASSY, F (TRV312)	
72	A-7073-138-A	MA-297 BOARD, COMPLETE (TRV32/TRV312)	
72	A-7073-165-A	MA-297 BOARD, COMPLETE (TRV34/TRV44/TRV44E)	
72	A-7073-190-A	MA-297 BOARD, COMPLETE (TRV53)	
72	A-7073-192-A	MA-297 BOARD, COMPLETE (TRV52/TRV512)	
73	1-782-154-11	CABLE, FLEXIBLE FLAT 12P	
74	3-977-764-01	SHEET, STEREO (TRV34/TRV44/TRV52/TRV512/TRV44E)	
* 75	3-976-068-01	PLATE, MA GROUND	

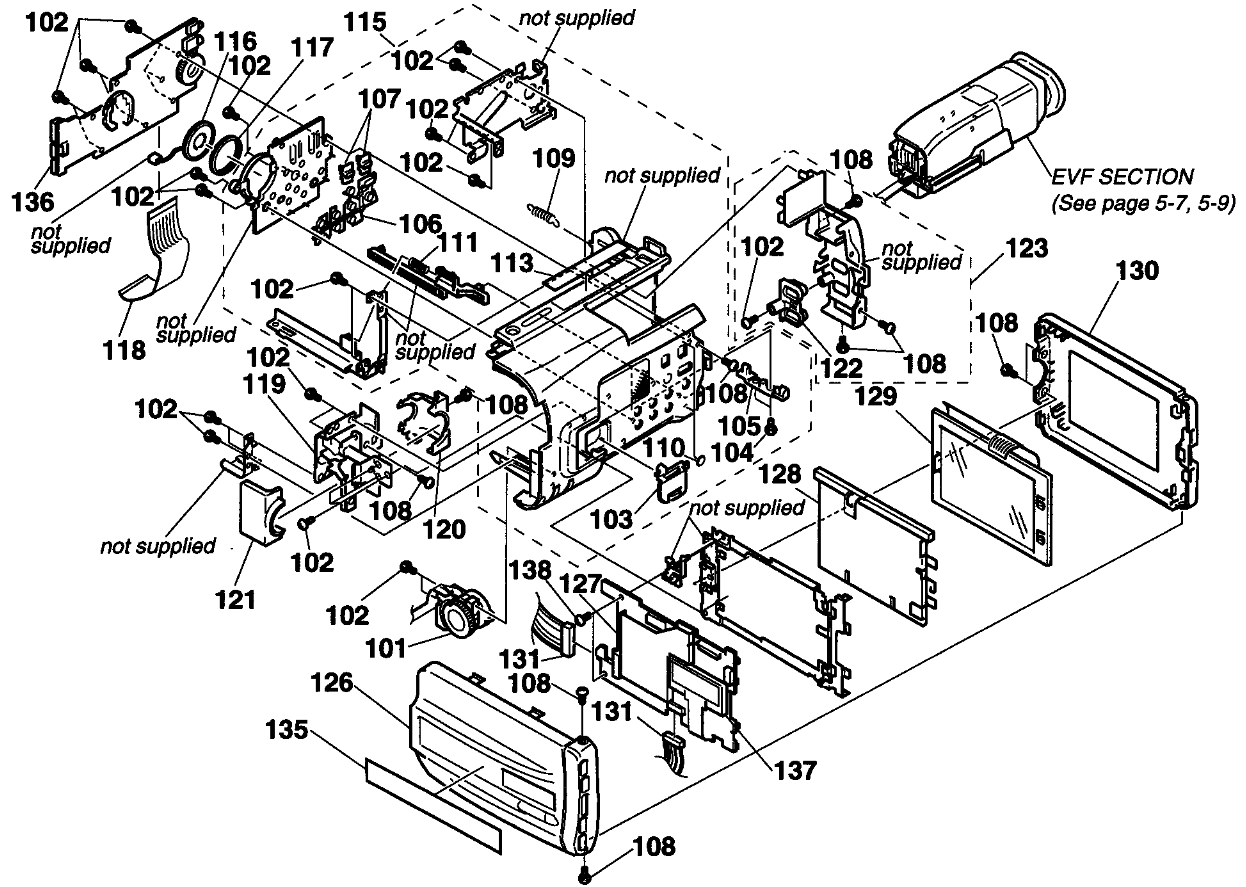
5-1-2 (2). CABINET (L), F PANEL SECTION (TRV14E/TRV24E MODEL)



Ref. No.	Part No.	Description	Remarks
51	3-965-888-21	COVER, JACK	
52	3-969-339-31	BELT, GRIP	
53	X-3947-230-1	CABINET (L) ASSY (G)	
54	3-965-844-01	BUTTON, S/S	
55	3-965-830-01	SPRING, COMPRESSION	
56	3-942-985-01	KNOB, STAND-BY	
57	3-965-870-01	PLATE, S/S JOINT	
58	3-965-869-01	HOLDER, KNOB	
59	3-730-107-01	SCREW (M2X2.2)	
60	3-736-364-01	SPRING	
61	1-542-312-11	BOOK, MICRO	
62	3-975-396-01	HOLDER, GRILLE	
63	3-975-395-01	HOLDER, MICROPHONE	
64	3-975-398-01	GRILLE, MICROPHONE	

Ref. No.	Part No.	Description	Remarks
66	3-719-601-01	SCREW (B2X5),TAPPING	
67	3-975-397-01	CUSHION, MICROPHONE	
71	X-3947-175-1	PANEL ASSY, F (TRV14E)	
71	X-3947-356-1	PANEL ASSY, F (TRV24E)	
72	A-7073-050-A	MA-296 BOARD, COMPLETE	
73	1-782-154-11	CABLE, FLEXIBLE FLAT 12P	
74	3-972-479-01	SPRING COMPRESSION	
* 75	3-975-428-01	PLATE, MA GROUND	
76	3-975-404-01	KNOB, P	
77	3-975-412-01	LOCK, P	
78	3-975-411-01	HOLDER, P KNOB	
79	3-969-270-01	SPRING, CLICK	
80	3-974-290-01	SPACER, POWER	

5-1-3 (1). CABINET (R), LCD SECTION (EXCEPT TRV14E/TRV24E MODEL)

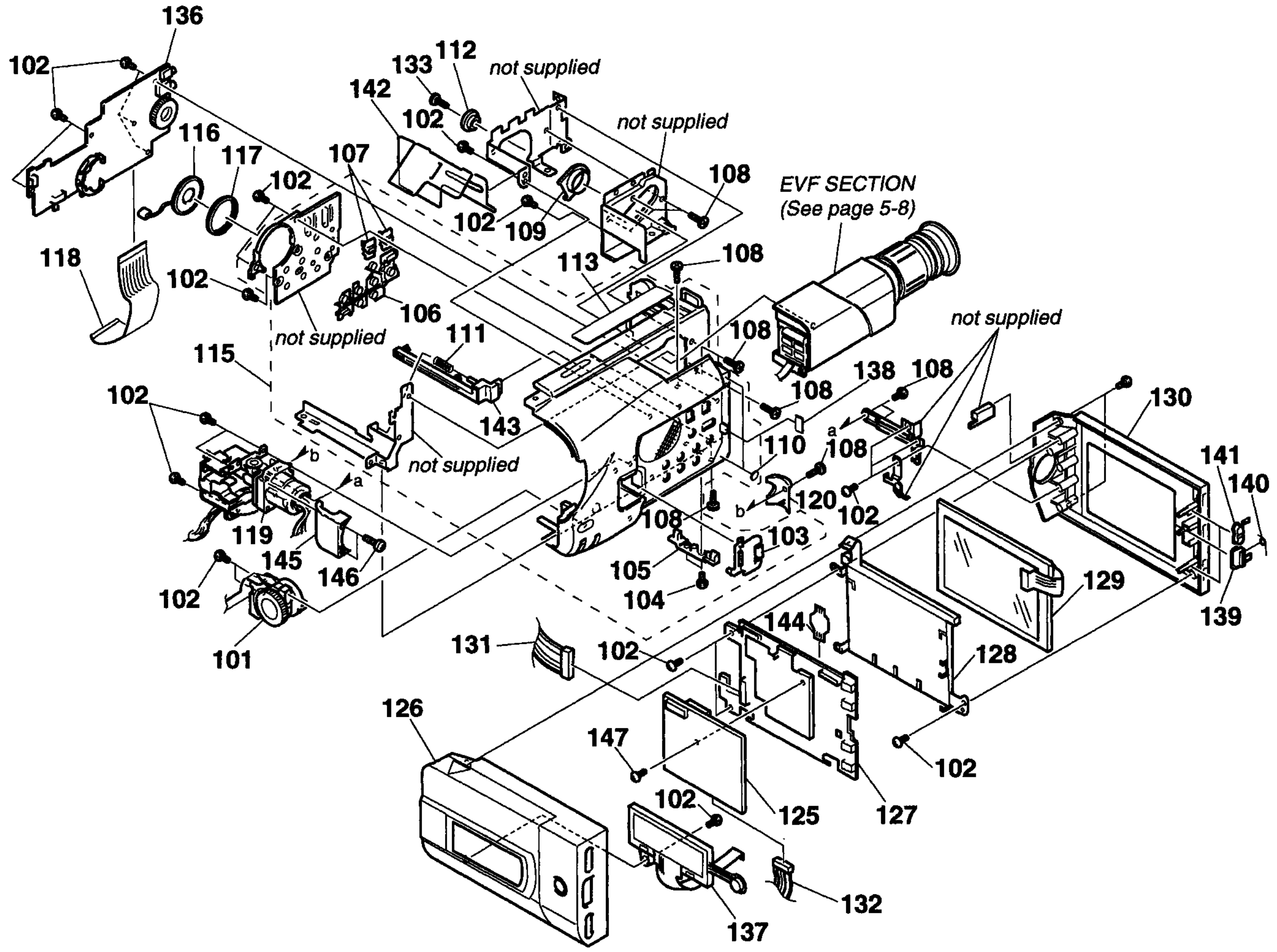

102
116
102
115
117
not supplied
102
107
102
102
109
not supplied
108
EVF SECTION
(See page 5-7, 5-9)
136
102
not supplied
106
111
113
102
not supplied
123
130
102
not supplied
118
not supplied
not supplied
108
122
108
102
119
108
108
129
102
105
110
104
128
not supplied
121
108
120
102
103
not supplied
102
138
127
101
131
126
108
131
135
137
108

Ref. No.	Part No.	Description	Remarks
101	1-475-068-11	SWITCH BLOCK, CONTROL(MF-7800)	
102	3-719-601-01	SCREW (B2X5),TAPPING	
103	3-968-878-01	LID, LITHIUM BATTERY	
104	3-966-178-01	SCREW (1.7)	
105	3-965-854-01	CLAW, BT LOCK	
106	3-975-378-11	BUTTON (A), CF	
107	3-975-380-01	KNOB, SLIDE	
108	3-719-381-01	SCREW (M2X4)	
109	4-602-490-01	SPRING, TENSION	
110	3-959-978-02	CUSHION, PANEL	
111	3-965-846-01	SPRING, COMPRESSION	
113	3-975-376-01	SHEET, LETTER	
115	X-3947-323-1	CABINET (R) ASSY (TRV32/TRV34/TRV44/TRV44E)	
115	X-3947-335-1	CABINET (R) ASSY (TRV52/TRV53)	
115	X-3947-424-1	CABINET (R) ASSY (TRV512)	
115	X-3947-427-1	CABINET (R) ASSY (TRV312)	
116	1-505-291-11	SPEAKER (DIA 2.8CM)	
117	3-965-367-11	SPACER, SP	
118	1-782-153-11	CABLE, FLEXIBLE FLAT 45P	
119	X-3947-327-1	HINGE ASSY	
120	3-976-130-01	COVER (C), HINGE (TRV32/TRV34/TRV44/TRV52/TRV53/TRV44E)	
120	3-976-130-11	COVER (C), HINGE (TRV312/TRV512)	
121	3-976-099-01	COVER (M), HINGE	
122	3-976-096-01	BUTTON, BF	
123	X-3947-331-1	CABINET (R) ASSY , SUB (TRV32/TRV53)	
123	X-3947-332-1	CABINET (R) ASSY , SUB (TRV34/TRV44/TRV52/TRV44E)	
123	X-3947-426-1	CABINET (R) ASSY , SUB (TRV512)	
123	X-3947-430-1	CABINET (R) ASSY , SUB (TRV312)	
126	X-3947-326-1	CABINET (C) ASSY, PANEL (TRV32/TRV34/TRV44/TRV52/TRV53/TRV44E)	
126	X-3947-428-1	CABINET (C) ASSY, PANEL (TRV312/TRV512)	
127	A-7093-277-A	PD-77 BOARD,COMPLETE (TRV32/TRV34/TRV53/TRV312)	
127	A-7093-281-A	PD-76 BOARD,COMPLETE(TRV44E)	
127	A-7093-279-A	PD-76 BOARD,COMPLETE (TRV44/TRV52/TRV512)	
⚠128	1-517-654-11	TUBE, FLUORESCENT COLD CATHODE (TRV32/TRV34/TRV53/TRV312)	
⚠128	1-517-655-11	TUBE, FLUORESCENT COLD CATHODE (TRV44/TRV52/TRV512/TRV44E)	
129	1-801-667-11	INDICATOR MODULE, LIQUID CRYST (TRV44/TRV52/TRV512/TRV44E)	
129	1-801-669-11	INDICATOR MODULE, LIQUID CRYST (TRV32/TRV34/TRV53/TRV312)	
130	X-3947-325-1	CABINET (M) ASSY, P(TRV32/TRV34/TRV53)	
130	X-3947-333-1	CABINET (M) ASSY, P(TRV44/TRV52/TRV44E)	
130	X-3947-425-1	CABINET (M) ASSY, P(TRV512)	
130	X-3947-429-1	CABINET (M) ASSY, P(TRV312)	
131	1-957-152-11	HARNESS (CP-75)	
134	3-976-103-01	SCREEN, WINDOW	
135	3-976-125-01	WINDOW, LCD (TRV32)	
135	3-976-125-11	WINDOW, LCD (TRV53)	
135	3-976-125-21	WINDOW, LCD (TRV44)	
135	3-976-125-31	WINDOW, LCD (TRV44E)	
135	3-976-125-41	WINDOW, LCD (TRV52)	
135	3-976-125-51	WINDOW, LCD (TRV312)	
135	3-976-125-61	WINDOW, LCD (TRV512)	
135	3-976-125-71	WINDOW, LCD (TRV34)	
136	A-7073-137-A	CF-46 BOARD, COMPLETE (TRV32/TRV312)	
136	A-7073-163-A	CF-46 BOARD, COMPLETE (TRV34/TRV44/TRV52/TRV512/TRV44E)	
136	A-7073-189-A	CF-46 BOARD, COMPLETE (TRV53)	
137	1-801-697-11	DISPLAY PANEL, LIQUID CRYSTAL	
138	3-713-786-21	SCREW (M2X3)	

Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Note :
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifie.

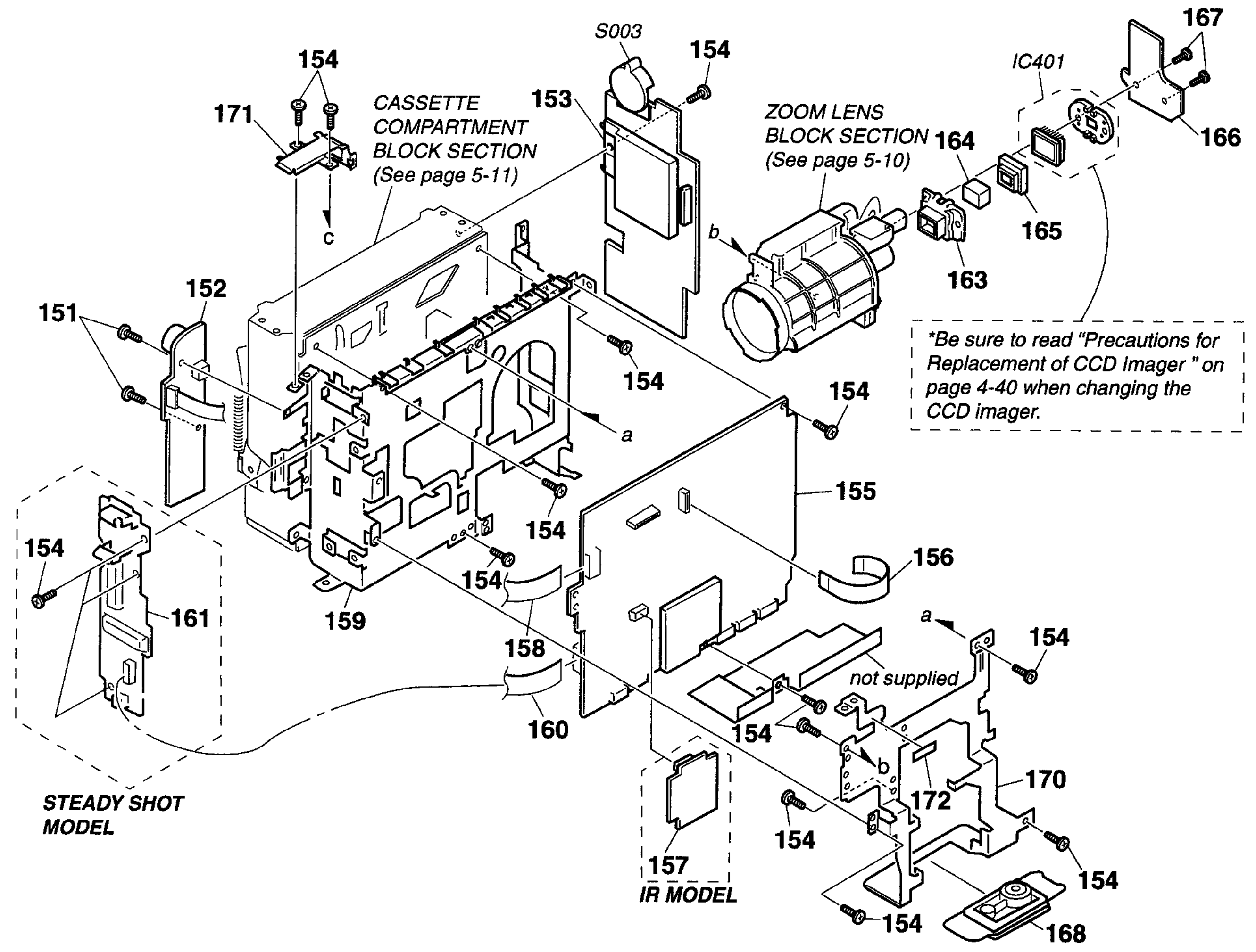
5-1-3 (2). CABINET (R), LCD SECTION (TRV14E/TRV24E MODEL)


136
102
133
112
not supplied
142
102
not supplied
116
117
107
102
102
109
108
EVF SECTION
(See page 5-8)
118
102
113
108
106
not supplied
111
115
108
not supplied
102
108
138
108
143
not supplied
a
b
110
108
a
130
141
140
119
b
120
102
145
146
103
108
105
129
102
104
139
101
131
144
102
128
126
147
102
102
125
127
132
137

Ref. No.	Part No.	Description	Remarks
101	1-475-068-11	SWITCH BLOCK, CONTROL(MF-7800)	
102	3-719-601-01	SCREW (B2X5),TAPPING	
103	3-968-878-01	LID, LITHIUM BATTERY	
104	3-966-178-01	SCREW (1.7)	
105	3-965-854-01	CLAW, BT LOCK	
106	3-975-378-01	BUTTON (A), CF (TRV14E)	
106	3-975-378-11	BUTTON (A), CF (TRV24E)	
107	3-975-380-01	KNOB, SLIDE	
108	3-719-381-01	SCREW (M2X4)	
109	3-974-326-01	FLANGE, SLIDER	
110	3-959-978-02	CUSHION, PANEL	
111	3-965-846-01	SPRING, COMPRESSION	
112	3-974-325-01	FLANGE, ROTARY	
113	3-975-376-01	SHEET, LETTER	
115	X-3947-168-1	CABINET (R) ASSY (TRV14E)	
115	X-3947-357-1	CABINET (R) ASSY (TRV24E:E)	
115	X-3947-403-1	CABINET (R) ASSY (TRV24E:AEP)	
116	1-505-291-11	SPEAKER (DIA 2.8CM)	
117	3-965-367-11	SPACER, SP	
118	1-782-153-11	CABLE, FLEXIBLE FLAT 45P	
119	X-3947-171-1	HINGE ASSY	
120	3-975-373-01	COVER (LOWER), HINGE	
125	A-7093-271-A	SD-25 BOARD, COMPLETE (TRV14E)	
125	A-7093-274-A	SD-24 BOARD, COMPLETE (TRV24E)	
126	X-3947-169-1	CABINET (C) ASSY, P (TRV14E)	
126	X-3947-404-1	CABINET (C) ASSY, P (TRV24E)	
127	A-7093-270-A	PD-75 BOARD, COMPLETE(TRV14E)	
127	A-7093-273-A	PD-74 BOARD, COMPLETE (TRV24E)	
⚠128	1-517-524-51	TUBE, FLUORESCENT COLD CATHODE	
129	1-801-666-11	INDICATOR MODULE, LIQUID CRYST (TRV14E)	
130	X-3947-170-1	CABINET (M) ASSY, P	
131	1-957-150-11	HARNESS (CP-74)	
132	1-957-151-11	HARNESS (CS-111)	
133	3-713-790-31	SCREW (M2X8), TAPPING, P3	
136	A-7073-052-A	CF-45 BOARD, COMPLETE (TRV14E)	
136	A-7073-159-A	CF-45 BOARD, COMPLETE (TRV24E)	
137	1-801-697-21	DISPLAY PANEL, LIQUID CRYSTAL	
138	3-975-408-01	CUSHION, PANEL LOCK	
139	3-975-419-01	BUTTON, PANEL LOCK	
140	3-975-420-01	SPRING, LOCK	
141	3-975-421-01	BUTTON, BRIGHT	
* 142	3-975-685-01	GUIDE, VF FLEXIBLE	
143	3-975-388-01	CLAW, BATTERY	
144	1-660-433-11	FP-410 FLEXIBLE BOARD	
145	3-975-384-01	COVER (UPPER) HINGE	
146	3-768-729-41	SCREW (M2X8)	
147	3-968-729-61	SCREW (M2X3)	

Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

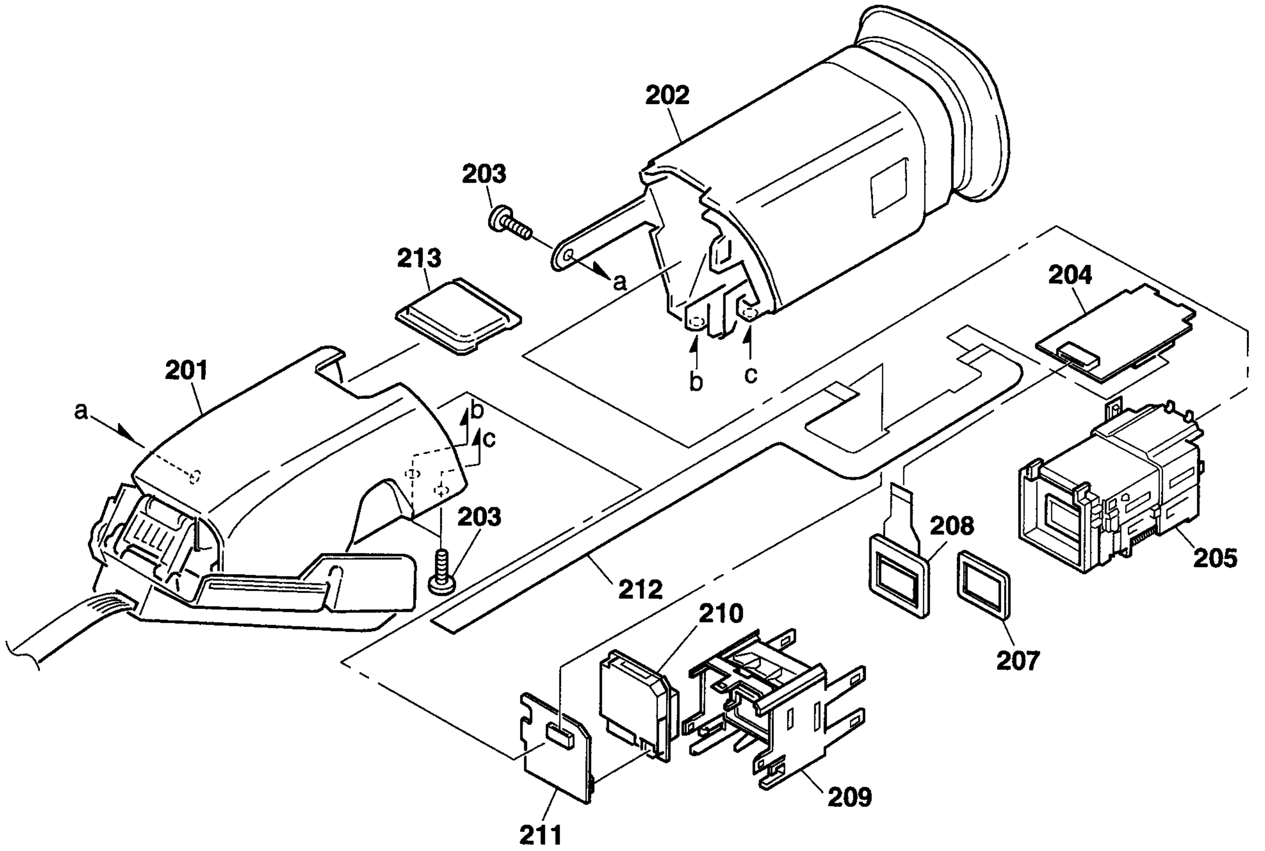
5-1-4. MAIN SECTION


167
IC401
S003
154
154
171
CASSETTE COMPARTMENT BLOCK SECTION (See page 5-11)
153
ZOOM LENS BLOCK SECTION (See page 5-10)
164
166
165
c
b
163
152
151
154
154
a
155
154
156
154
154
159
158
a
154
not supplied
160
154
b
170
172
154
157
IR MODEL
154
154
168
STEADY SHOT MODEL

*Be sure to read "Precautions for Replacement of CCD Imager" on page 4-40 when changing the CCD imager.

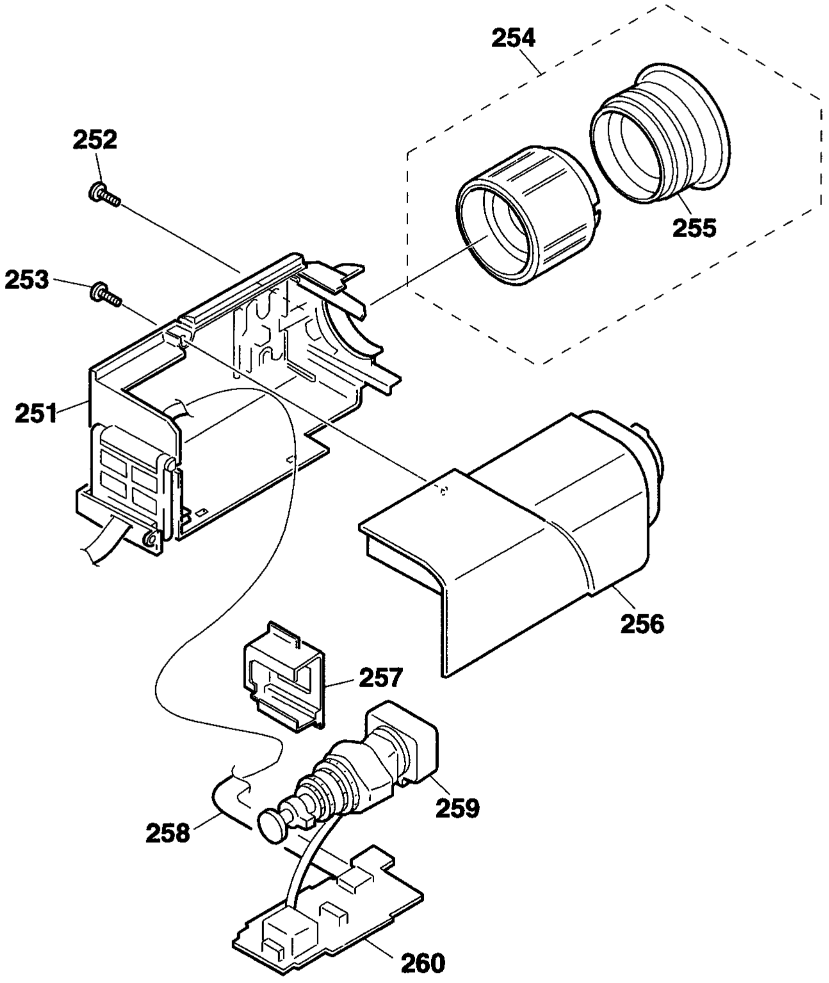
Ref. No.	Part No.	Description	Remarks
151	3-968-729-01	SCREW (M2), LOCK ACE, P2	
152	A-7073-058-A	JK-154 BOARD, COMPLETE (TRV14E/TRV24E)	
152	A-7073-134-A	JK-155 BOARD, COMPLETE (TRV32/TRV53/TRV312/TRV512)	
152	A-7073-162-A	JK-155 BOARD, COMPLETE (TRV34/TRV44/TRV52/TRV44E)	
153	A-7093-269-A	DD-94 BOARD, COMPLETE (TRV14E/TRV24E/TRV44E)	
153	A-7093-276-A	DD-94 BOARD, COMPLETE (TRV32/TRV34/TRV44/TRV52/TRV53/TRV312/TRV512)	
154	3-713-786-21	SCREW (M2X3)	
155	A-7093-268-A	VC-188 BOARD, COMPLETE (TRV14E)	
155	A-7093-275-A	VC-188 BOARD, COMPLETE (TRV32/TRV312)	
155	A-7093-272-A	VC-188 BOARD, COMPLETE (TRV24E)	
155	A-7093-280-A	VC-188 BOARD, COMPLETE (TRV44E)	
155	A-7093-283-A	VC-188 BOARD, COMPLETE (TRV53)	
155	A-7093-282-A	VC-188 BOARD, COMPLETE (TRV52/TRV512)	
155	A-7093-278-A	VC-188 BOARD, COMPLETE (TRV34/TRV44)	
156	1-782-155-11	CABLE, FLEXIBLE FLAT 16P	
157	A-7073-091-A	IR-28 BOARD, COMPLETE (TRV53)	
158	1-665-151-11	FP-550 FLEXIBLE BOARD	
* 159	3-975-367-01	FRAME, MD	
160	1-665-150-11	FP-549 FLEXIBLE BOARD (EXCEPT TRV14E)	
161	A-7073-145-A	SE-60 BOARD, COMPLETE (EXCEPT TRV14E/TRV53)	
163	3-963-467-11	ADAPTOR (FH), CCD FITTING	
164	1-547-787-41	FILTER BLOCK, OPTICAL (EXCEPT TRV14E)	
164	1-547-924-41	FILTER BLOCK, OPTICAL (TRV14E)	
165	3-961-192-01	RUBBER (FH), SEAL (EXCEPT TRV14E)	
165	3-968-054-11	RUBBER (FM), SHIELD (TRV14E)	
166	A-7073-057-A	CD-164 BOARD, COMPLETE (TRV14E/TRV24E)	
166	A-7073-133-A	CD-165 BOARD, COMPLETE (EXCEPT TRV14E/TRV24E)	
167	3-318-203-11	SCREW (B1.7X6), TAPPING	
168	3-965-871-01	SCREW, TRIPOD	
169	X-3947-174-1	PLATE ASSY, REGURATION (TRV14E/TRV24E)	
* 170	3-975-366-01	FRAME, LENS (TRV14E/TRV24E)	
* 170	3-975-366-11	FRAME, LENS (EXCEPT TRV14E/TRV24E)	
* 171	3-975-364-01	BRACKET, SHOE	
172	3-976-740-01	SHEET, LENS	
IC401	A-7030-638-A	CCD BLOCK ASSY (MN37240FP) (TRV32/TRV52/TRV53/TRV312/TRV512)	
IC401	A-7030-779-A	CCD BLOCK ASSY (ICX207AK-13)(TRV14E)	
IC401	A-7030-782-A	CCD BLOCK ASSY (ICX211AK-43) (TRV24E/TRV44E)	
IC401	A-7030-791-A	CCD BLOCK ASSY (ICX209AK-43) (TRV34/TRV44)	
S003	1-762-441-21	SWITCH, ROTARY (ZOOM SW)	

5-1-5 (1). EVF SECTION (TRV53 MODEL)



Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
201	X-3947-337-1	CABINET (FRONT (C)) ASSY, EVF		208	8-756-015-31	LCX005BK-5	
202	X-3947-338-1	CABINET (REAR (C)) ASSY, EVF		209	X-3946-886-1	HOLDER ASSY, PRISM	
203	3-948-339-01	SCREW, TAPPING		210	A-7073-086-A	LB-49 BOARD, COMPLETE	
204	A-7073-085-A	VF-110 BOARD, COMPLETE		211	A-7073-084-A	VF-109 BOARD, COMPLETE	
205	X-3946-887-1	VF LENS ASSY		212	1-665-152-11	FP-551 FLEXIBLE BOARD	
* 207	3-960-302-11	CUSHION (1), LCD		213	3-976-118-01	WINDOW, SOLAR	

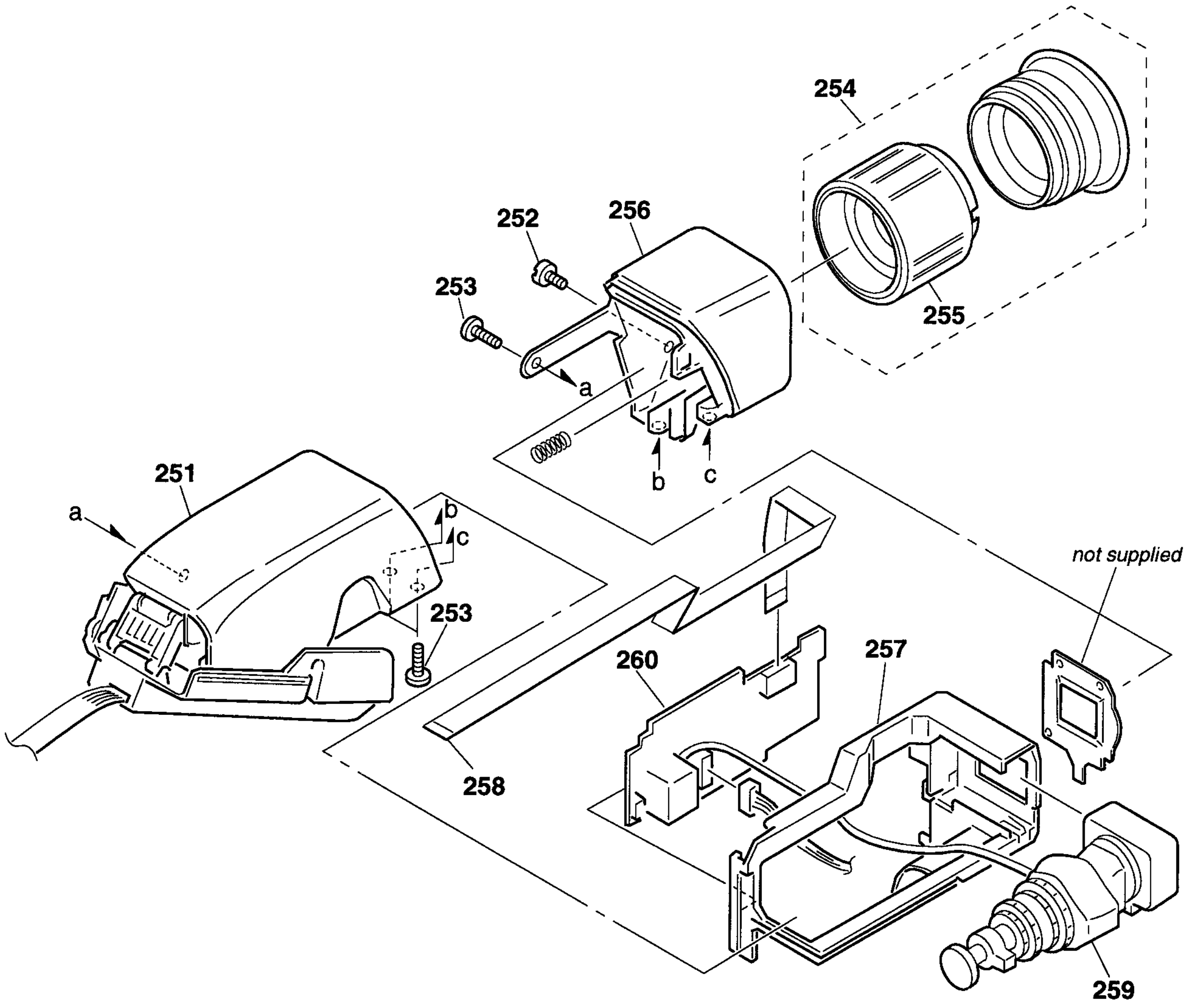
5-1-5 (2). EVF SECTION (TRV14E/TRV24E MODEL)



Ref. No.	Part No.	Description	Remarks
251	X-3946-883-1	CABINET (L) ASSY, EVF	
252	3-975-898-01	SCREW (T), F LOCK	
253	3-948-339-01	SCREW, TAPPING	
254	X-3944-966-1	FINDER ASSY	
255	3-963-391-01	EYE CUP	
256	3-974-155-01	CABINET (R), EVF	
* 257	X-3947-303-1	COVER ASSY, CRT	
258	1-782-156-11	CABLE, FLEXIBLE FLAT 5P	
⚠259	1-452-673-31	CRT ASSY (M01KXX90WB)	
260	A-7073-078-A	VF-102 BOARD, COMPLETE	

Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

5-1-5 (3). EVF SECTION (EXCEPT TRV53/TRV14E/TRV24E MODEL)



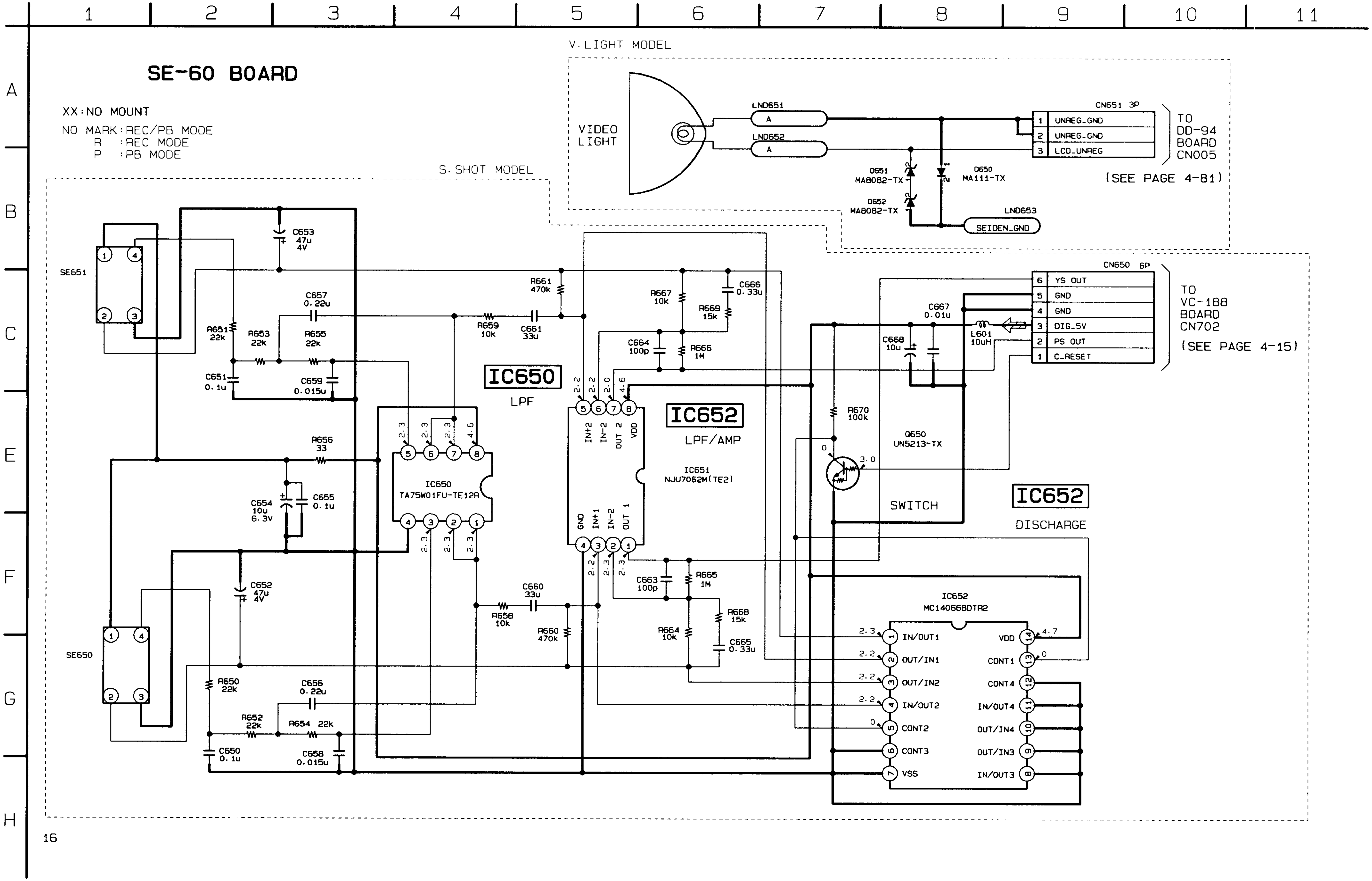
Ref. No.	Part No.	Description	Remarks
251	X-3947-328-1	CABINET (FRONT (B)) ASSY, EVF (TRV32/TRV34/TRV44/TRV52/TRV44E)	
251	X-3947-431-1	CABINET (FRONT (B)) ASSY, EVF (TRV312/TRV512)	
252	3-975-898-01	SCREW (T), F LOCK	
253	3-948-339-01	SCREW, TAPPING	
254	X-3944-966-1	FINDER ASSY	
255	3-963-391-01	EYE CUP	
256	X-3947-329-1	CABINET (REAR (B)) ASSY, EVF (TRV32/TRV34/TRV44/TRV52/TRV44E)	
256	X-3947-432-1	CABINET (REAR (B)) ASSY, EVF (TRV312/TRV512)	
* 257	X-3947-330-1	HOLDER ASSY, VF PC BOARD	
258	1-782-156-11	CABLE, FLEXIBLE FLAT 5P	
⚠259	1-452-673-31	CRT ASSY (M01KXX90WB)	
260	A-7073-078-A	VF-102 BOARD, COMPLETE (TRV44E)	
260	A-7073-135-A	VF-102 BOARD, COMPLETE (TRV32/TRV34/TRV44/TRV52/TRV312/TRV512)	

Note :	**Note :**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

STEADY SHOT MODEL

SE-60 (STEADY SHOT) SCHEMATIC DIAGRAM

— Ref. No. SE-60 Board; 5,000 Series —


1 2 3 4 5 6 7 8 9 10 11
A B C D E F G H
SE-60 BOARD
XX : NO MOUNT
NO MARK : REC/PB MODE
R : REC MODE
P : PB MODE
S. SHOT MODEL
V. LIGHT MODEL
VIDEO LIGHT
LND651 A
LND652 A
LND653 SEIDEN_GND
D651 MA8082-TX
D652 MA8082-TX
D650 MA111-TX
CN651 3P
1 UNREG_GND
2 UNREG_GND
3 LCD_UNREG
TO DD-94 BOARD CN005
(SEE PAGE 4-81)
CN650 6P
6 YS OUT
5 GND
4 GND
3 DIG_5V
2 PS OUT
1 C_RESET
TO VC-188 BOARD CN702
(SEE PAGE 4-15)
SE651
SE650
C653 47u 4V
C657 0.22u
R651 22k
R653 22k
R655 22k
C651 0.1u
C659 0.015u
R661 470k
R659 10k
C661 33u
R667 10k
C666 0.33u
R669 15k
C664 100p
R666 1M
C667 0.01u
C668 10u
L601 10uH
IC650 LPF
IC650 TA75W01FU-TE12R
IC652 LPF/AMP
IC651 NJU7062M(TE2)
IN+2 IN-2 OUT 2 VDD
GND IN+1 IN-1 OUT 1
R656 33
C654 10u 6.3V
C655 0.1u
C652 47u 4V
R650 22k
C656 0.22u
R652 22k
R654 22k
C650 0.1u
C658 0.015u
C660 33u
R658 10k
R660 470k
C663 100p
R665 1M
R668 15k
R664 10k
C665 0.33u
R670 100k
Q650 UN5213-TX
SWITCH
IC652 DISCHARGE
IC652 MC14066BDTR2
IN/OUT1 OUT/IN1 OUT/IN2 IN/OUT2 CONT2 CONT3 VSS
VDD CONT1 CONT4 IN/OUT4 OUT/IN4 OUT/IN3 IN/OUT3
2.3 2.2 2.0 4.6 4.7 3.0 0
16

PD-76 (LCD) PRINTED WIRING BOARD

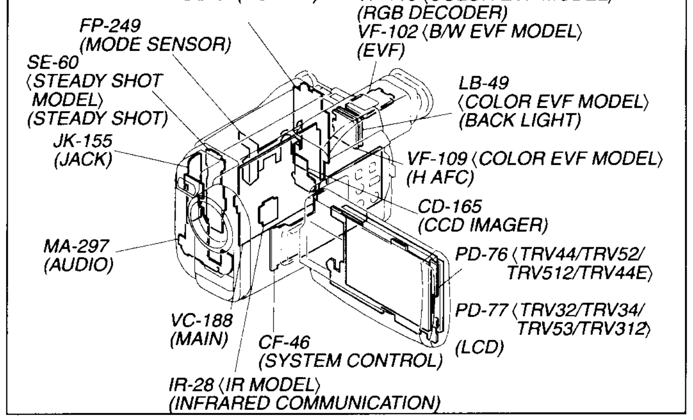
— Ref. No. PD-76 Board; 8,000 Series —

There are few cases that the part printed on this diagram isn't mounted in this model.

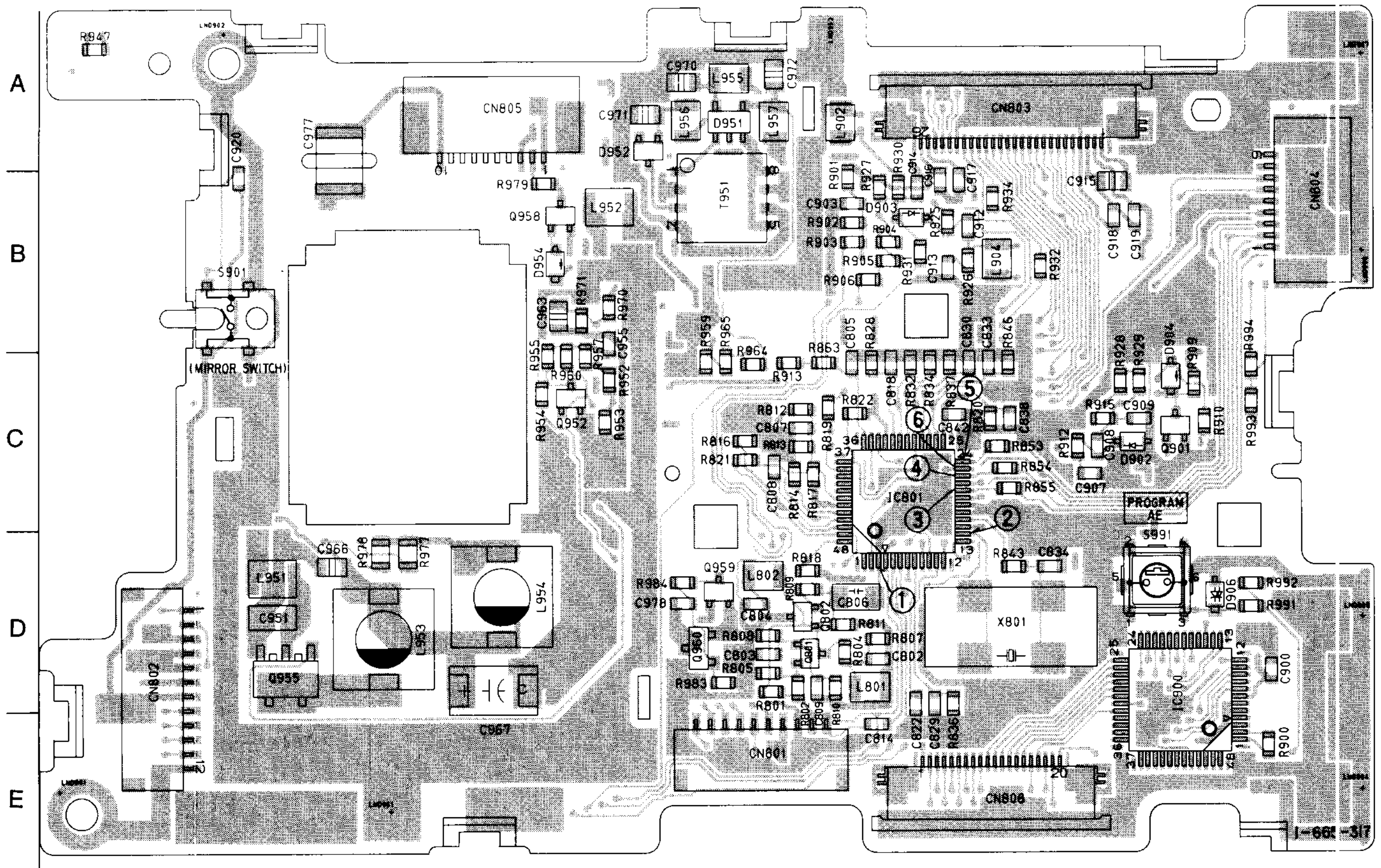
PD-76 BOARD

C806	D-5	C956	I-5	L901	J-5	R841	G-6	R953	C-4
C808	C-5	C957	I-4	L902	A-5	R842	H-5	R954	C-4
C810	H-5	C958	I-4	L903	H-7	R843	D-6	R955	B-4
C811	H-5	C959	I-4	L904	B-6	R845	H-6	R957	C-4
C812	H-5	C960	I-4	L951	A-2	R846	B-6	R959	B-4
C813	H-5	C961	I-4	L952	B-4	R847	H-5	R960	C-4
C814	E-5	C962	I-5	L953	D-3	R848	G-6	R961	H-3
C816	G-5	C963	B-4	L954	D-4	R849	H-5	R962	H-3
C818	C-6	C964	I-4	L955	A-5	R852	G-6	R963	I-4
C820	G-5	C965	I-4	L956	A-4	R853	C-6	R964	B-4
C822	E-6	C966	D-3	L957	A-5	R854	C-6	R965	B-4
C823	G-6	C967	D-3			R855	C-6	R966	H-5
C825	F-5	C968	G-3	Q802	D-5	R856	H-6	R967	I-3
C826	G-5	C970	A-4	Q805	G-6	R857	G-6	R968	H-5
C827	G-5	C971	A-4	Q901	C-7	R858	G-6	R970	B-4
C828	G-5	C972	A-5	Q952	C-4	R859	G-6	R971	B-4
C829	E-6	C973	J-5	Q955	D-2	R860	G-6	R972	I-5
C832	H-5	C974	J-4	Q956	I-4	R861	F-4	R973	I-5
C835	H-6	C975	J-5	Q957	G-3	R862	G-4	R974	I-4
C836	H-6	C976	I-3	Q958	B-3	R863	B-5	R975	I-4
C837	H-6	C977	A-3	Q959	D-4	R900	D-7	R976	I-4
C838	C-6	C978	D-5	Q960	D-4	R901	A-5	R977	C-3
C839	G-6	C979	I-5			R902	B-5	R978	C-3
C840	G-6			R801	D-5	R903	B-5	R979	B-4
C841	H-6	CN801	E-5	R809	D-5	R904	B-5	R980	I-3
C842	C-6	CN802	D-1	R811	D-5	R905	B-5	R981	J-3
C844	F-4	CN803	A-6	R812	C-5	R906	B-5	R982	J-3
C900	D-7	CN804	B-7	R813	C-5	R907	H-7	R983	D-4
C901	J-5	CN805	A-3	R814	C-5	R908	I-6	R984	D-4
C902	I-5	CN808	E-6	R815	G-5	R909	C-7	R991	D-7
C903	B-5			R816	C-4	R910	C-7	R992	D-7
C904	H-7	D801	G-6	R817	C-5	R911	H-6	R993	C-7
C905	H-7	D901	I-7	R818	D-5	R914	I-6	R994	B-7
C906	I-7	D903	B-6	R819	C-5	R916	I-6		
C909	C-7	D904	C-7	R822	C-5	R917	I-6	S901	B-2
C910	I-5	D905	J-1	R825	G-5	R919	I-6	S991	C-7
C911	I-6	D951	A-5	R826	G-5	R920	I-4	S992	F-8
C912	B-6	D952	A-4	R827	H-5	R922	J-5	S993	G-8
C913	B-6	D953	J-4	R828	B-5	R923	I-6	S994	I-8
C914	B-6	D954	B-4	R829	H-5	R925	B-6	S995	J-8
C915	B-7			R830	G-5	R926	B-6		
C916	B-6	IC801	C-5	R831	G-5	R928	C-7	T951	B-5
C917	B-6	IC802	G-4	R832	C-5	R929	C-7	T952	H-3
C918	B-7	IC900	D-7	R833	H-5	R930	A-5		
C919	B-7	IC901	H-6	R834	C-6	R931	B-5	X801	D-6
C920	A-2	IC902	I-5	R835	H-5	R932	B-6		
C951	D-2	IC951	I-4	R836	E-6	R933	I-6		
C952	H-4			R837	C-6	R934	B-6		
C953	H-4	L803	D-5	R838	H-5	R947	A-1		
C954	H-4	L804	G-6	R839	H-5	R951	H-4		
C955	B-4	L805	H-6	R840	H-6	R952	C-4		

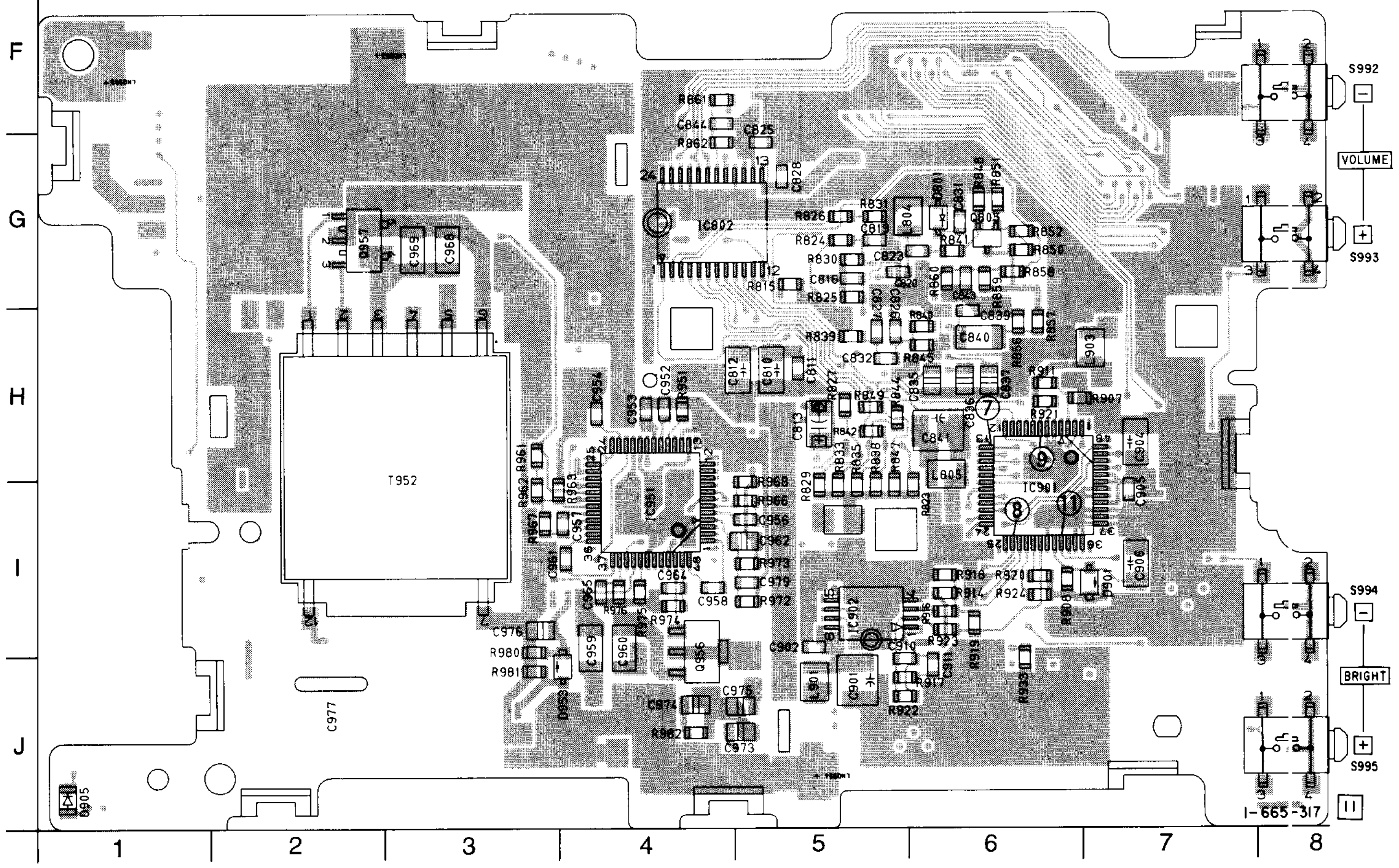
EXCEPT TRV14E/TRV24E MODEL


DD-94(POWER)
VF-110 ⟨COLOR EVF MODEL⟩
(RGB DECODER)
VF-102 ⟨B/W EVF MODEL⟩
(EVF)
FP-249
(MODE SENSOR)
SE-60
⟨STEADY SHOT MODEL⟩
(STEADY SHOT)
JK-155
(JACK)
LB-49
⟨COLOR EVF MODEL⟩
(BACK LIGHT)
VF-109 ⟨COLOR EVF MODEL⟩
(H AFC)
CD-165
(CCD IMAGER)
MA-297
(AUDIO)
PD-76 ⟨TRV44/TRV52/TRV512/TRV44E⟩
PD-77 ⟨TRV32/TRV34/TRV53/TRV312⟩
(LCD)
VC-188
(MAIN)
CF-46
(SYSTEM CONTROL)
IR-28 ⟨IR MODEL⟩
(INFRARED COMMUNICATION)

PD-76 BOARD (SIDE A)

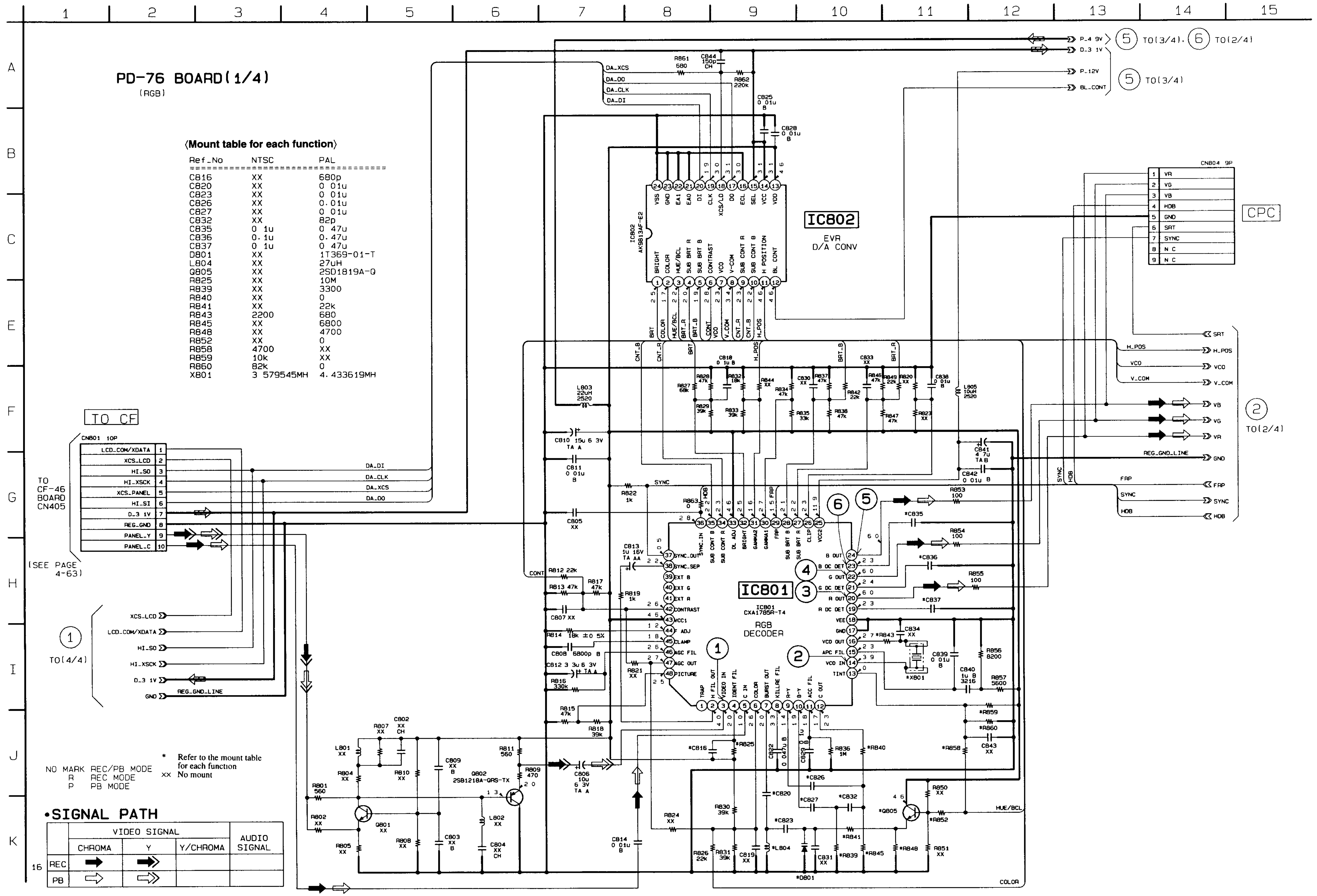

A
B
C
D
E
R947
CN805
C977
C920
S901
(MIRROR SWITCH)
C970
L959
C971
D951
D952
L952
Q958
T951
CN803
CN804
IC801
X801
IC900
CN801
CN808
CN802
PROGRAM AE
S991
Q955
L953
L954
C967
C966
F951
C951
1-665-317 11

PD-76 BOARD (SIDE B)


F
G
H
I
J
1
2
3
4
5
6
7
8
T952
IC802
IC901
IC902
Q957
C969
C968
C977
S992
VOLUME
S993
S994
BRIGHT
S995
D905
1-665-317 11

PD-76 (LCD) SCHEMATIC DIAGRAM

— Ref No. PD-76 Board; 8,000 Series —


PD-76 BOARD(1/4)
(RGB)
IC802
EVR
D/A CONV
IC802
AK5813AF-E2
IC801
RGB
DECODER
IC801
CXA1785R-T4
CN804 9P
CPC
TO CF
CN801 10P
TO CF-46 BOARD CN405
(SEE PAGE 4-63)
TO(4/4)
TO(3/4)
TO(2/4)
P_4 9V
D_3 1V
P_12V
BL_CONT
SRT
H_POS
VCO
V_COM
VB
VG
VR
GND
FRP
SYNC
HDB
LCD_COM/XDATA
XCS_LCD
HI_SO
HI_XSCK
XCS_PANEL
HI_SI
REG_GND
PANEL_Y
PANEL_C
Q802
2SB1218A-QRS-TX
*Q805
*X801
*D801
HUE/BCL
COLOR

⟨Mount table for each function⟩

Ref_No	NTSC	PAL
C816	XX	680p
C820	XX	0.01u
C823	XX	0.01u
C826	XX	0.01u
C827	XX	0.01u
C832	XX	82p
C835	0.1u	0.47u
C836	0.1u	0.47u
C837	0.1u	0.47u
D801	XX	1T369-01-T
L804	XX	27uH
Q805	XX	2SD1819A-Q
R825	XX	10M
R839	XX	3300
R840	XX	0
R841	XX	22k
R843	2200	680
R845	XX	6800
R848	XX	4700
R852	XX	0
R858	4700	XX
R859	10k	XX
R860	82k	0
X801	3.579545MH	4.433619MH

NO MARK REC/PB MODE
R REC MODE
P PB MODE

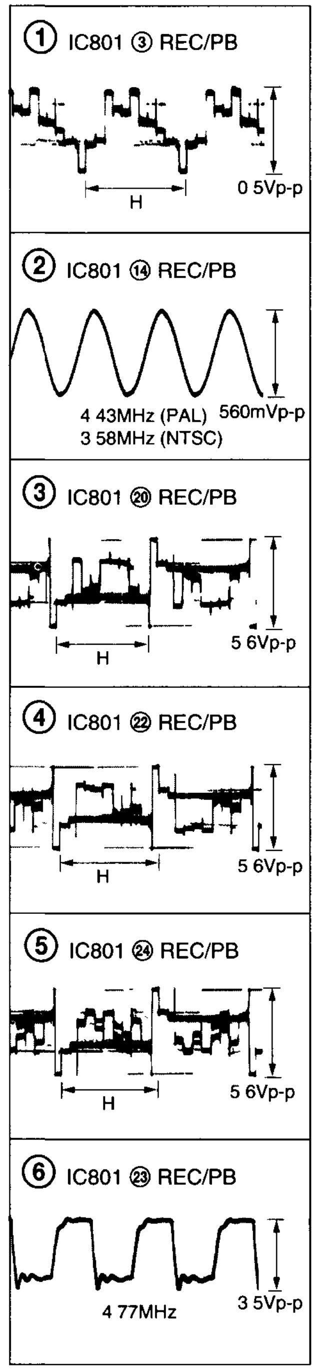
* Refer to the mount table for each function
xx No mount

•SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡》		
PB	⇨	⇨》		

16

PD-76 BOARD (1/4)

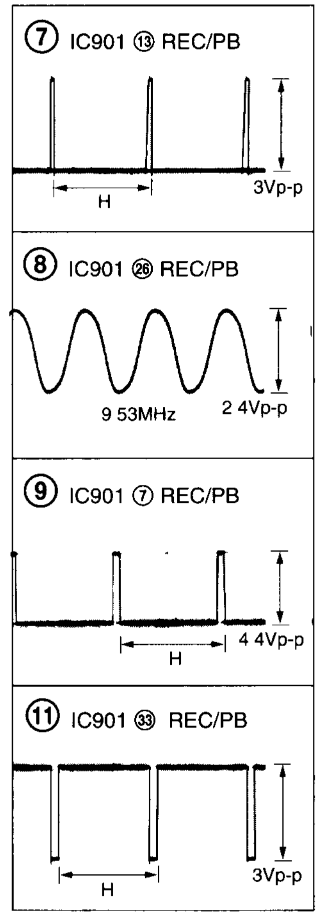


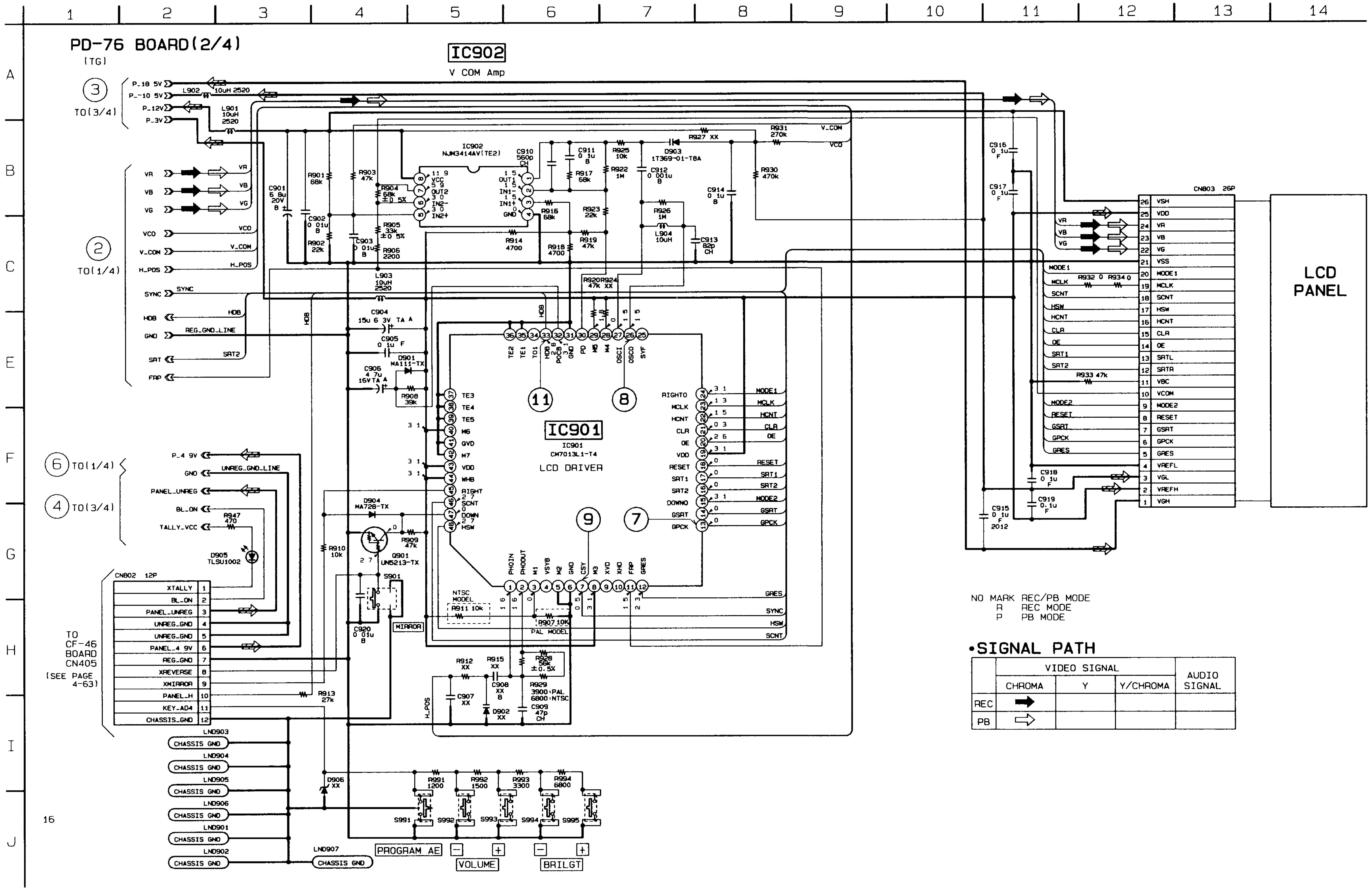
PD-76 (LCD) SCHEMATIC DIAGRAM

— Ref No PD-76 Board; 8,000 Series —

• See page 4-89 for PD-76 BOARD printed wiring board

PD-76 BOARD (2/4)




PD-76 BOARD(2/4)
(TG)
IC902
V COM Amp
③ TO(3/4)
② TO(1/4)
⑥ TO(1/4)
④ TO(3/4)
IC902 NJM3414AV(TE2)
IC901
IC901 CM7013L1-T4
LCD DRIVER
CN802 12P
XTALLY
BL_ON
PANEL_UNREG
UNREG_GND
UNREG_GND
PANEL_4 9V
REG_GND
XREVERSE
XMIRROR
PANEL_H
KEY_AD4
CHASSIS_GND
TO CF-46 BOARD CN405 (SEE PAGE 4-63)
CN803 26P
LCD PANEL
MIRROR
NTSC MODEL
PAL MODEL
PROGRAM AE
VOLUME
BRILGT
CHASSIS GND

NO MARK REC/PB MODE
R REC MODE
P PB MODE

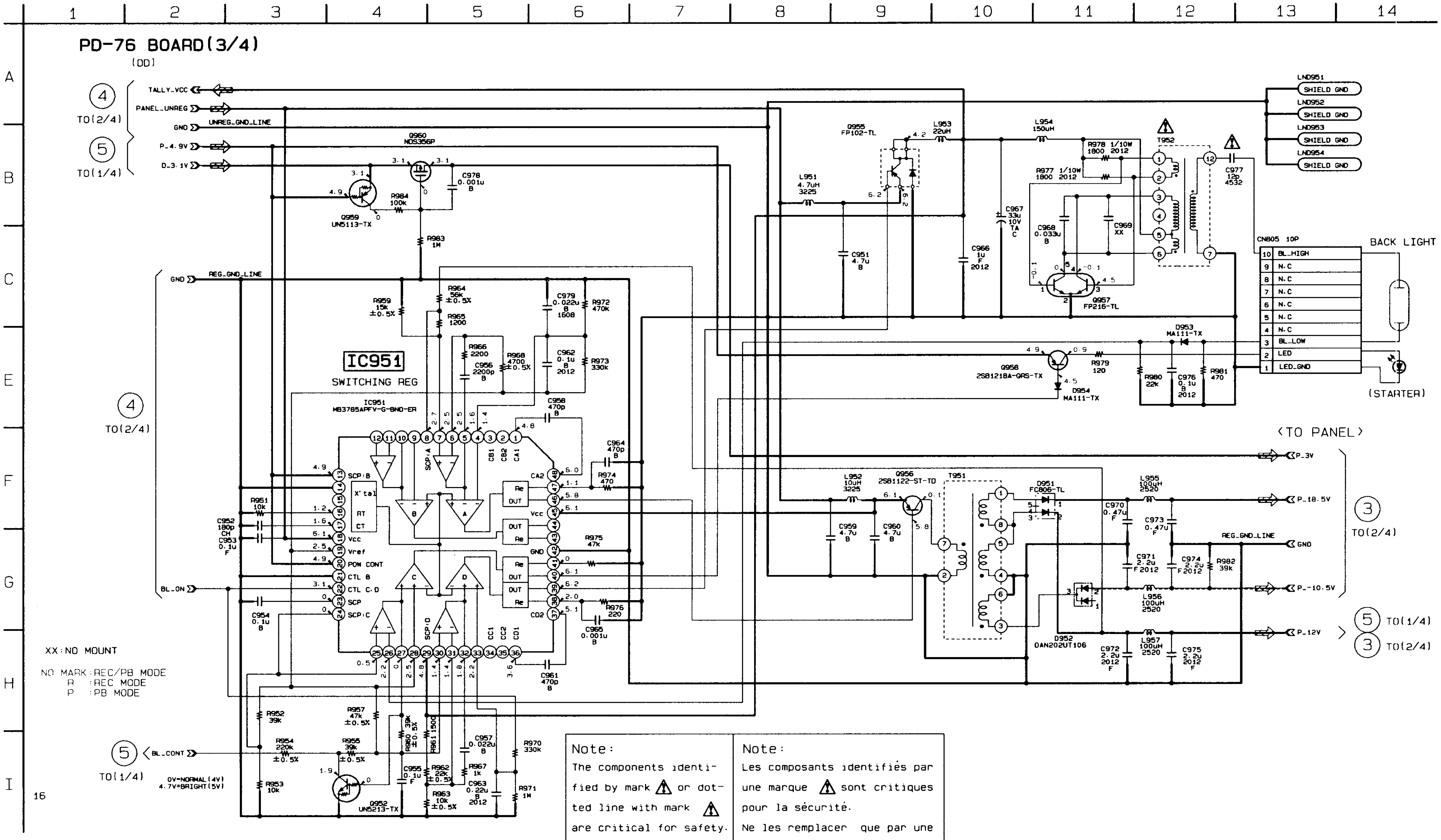
•SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡			
PB	⇨			

PD-76 (LCD) SCHEMATIC DIAGRAM

— Ref. No. PD-76 Board; 8,000 Series —

• See page 4-89 for PD-76 BOARD printed wiring board.

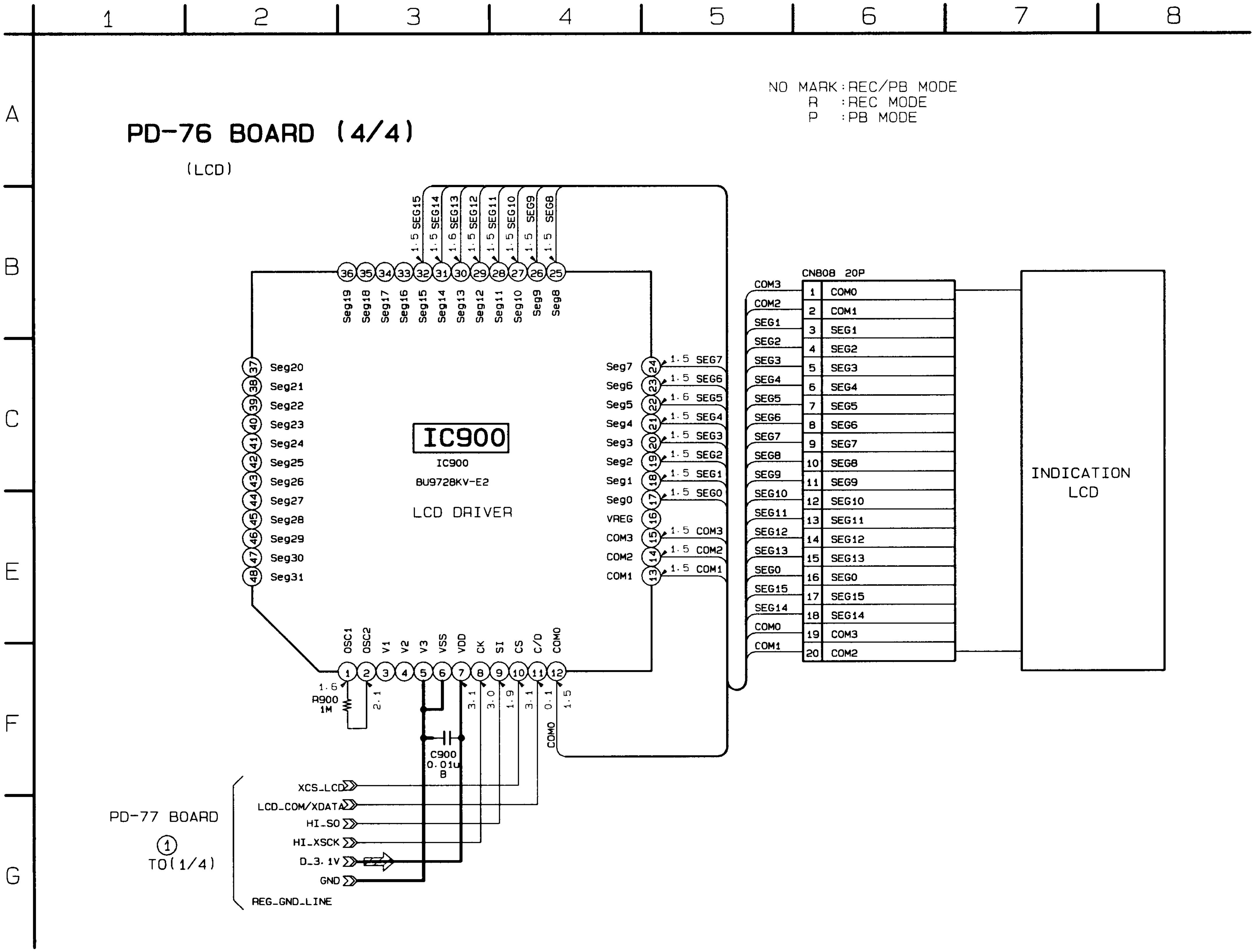

PD-76 BOARD(3/4)
(DD)
TO(2/4)
TO(1/4)
TALLY_VCC
PANEL_UNREG
GND
UNREG_GND_LINE
P_4.9V
D_3.1V
GND
REG_GND_LINE
BL_ON
BL_CONT
0V=NORMAL(4V)
4.7V=BRIGHT(5V)
Q960 NDS356P
Q959 UN5113-TX
R984 100k
R983 1M
C978 0.001u B
IC951
SWITCHING REG
IC951 MB3785APFV-G-BND-ER
SCP:B
X'tal
RT
CT
Vcc
Vref
POW CONT
CTL B
CTL C.D
SCP
SCP:C
SCP:A
SCP:D
CB1 CB2 CA1
CA2
CC1 CC2 CD1
CD2
R959 15k ±0.5%
R964 56k ±0.5%
R965 1200
R966 2200
C956 2200p B
R968 4700 ±0.5%
C979 0.022u B 1608
R972 470k
C962 0.1u B 2012
R973 330k
C958 470p B
C964 470p B
R974 470
R975 47k
R976 220
C965 0.001u B
C961 470p B
R951 10k
C952 180p CH
C953 0.1u F
C954 0.1u B
R952 39k
R954 220k ±0.5%
R953 10k
R957 47k ±0.5%
R955 39k ±0.5%
Q952 UN5213-TX
R960 39k ±0.5%
R961 1500
C955 0.1u F
R962 22k ±0.5%
R963 10k ±0.5%
C957 0.022u B
R967 1k
C963 0.22u B 2012
R970 330k
R971 1M
XX:NO MOUNT
NO MARK:REC/PB MODE
R :REC MODE
P :PB MODE
Q955 FP102-TL
L953 22uH
L951 4.7uH 3225
C951 4.7u B
C967 33u 10V TA C
C966 1u F 2012
L954 150uH
R978 1/10W 1800 2012
R977 1/10W 1800 2012
T952
C977 12p 4532
C968 0.033u B
C969 XX
Q957 FP216-TL
D953 MA111-TX
Q958 2SB1218A-QRS-TX
R979 120
D954 MA111-TX
R980 22k
C976 0.1u B 2012
R981 470
LND951 SHIELD GND
LND952 SHIELD GND
LND953 SHIELD GND
LND954 SHIELD GND
CN805 10P
10 BL_HIGH
9 N.C
8 N.C
7 N.C
6 N.C
5 N.C
4 N.C
3 BL_LOW
2 LED
1 LED_GND
BACK LIGHT
(STARTER)
(TO PANEL)
P_3V
P_18.5V
GND
P_-10.5V
P_12V
L952 10uH 3225
Q956 2SB1122-ST-TD
T951
C959 4.7u B
C960 4.7u B
D951 FC806-TL
L955 100uH 2520
C970 0.47u F
C973 0.47u F
C971 2.2u F 2012
C974 2.2u F 2012
R982 39k
L956 100uH 2520
D952 DAN202UT106
L957 100uH 2520
C972 2.2u 2012 F
C975 2.2u 2012 F
16

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

PD-76 (LCD) SCHEMATIC DIAGRAM

— Ref. No. PD-76 Board; 8,000 Series —

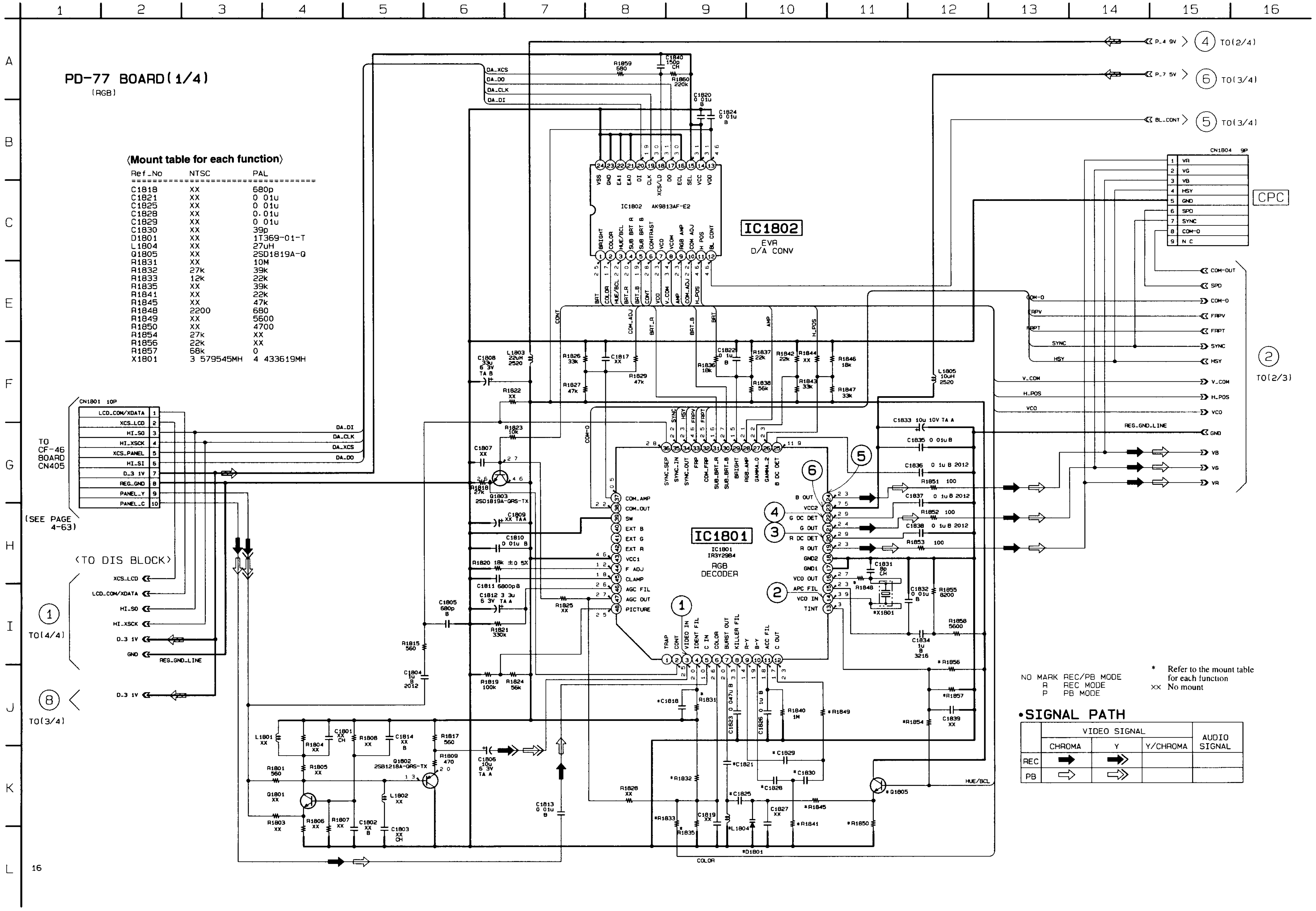
• See page 4-89 for PD-76 BOARD printed wiring board.


1
2
3
4
5
6
7
8
A
B
C
D
E
F
G
NO MARK : REC/PB MODE
R : REC MODE
P : PB MODE
PD-76 BOARD (4/4)
(LCD)
IC900
IC900
BU9728KV-E2
LCD DRIVER
Seg19
Seg18
Seg17
Seg16
Seg15
Seg14
Seg13
Seg12
Seg11
Seg10
Seg9
Seg8
1.5 SEG15
1.5 SEG14
1.6 SEG13
1.5 SEG12
1.5 SEG11
1.5 SEG10
1.5 SEG9
1.5 SEG8
Seg20
Seg21
Seg22
Seg23
Seg24
Seg25
Seg26
Seg27
Seg28
Seg29
Seg30
Seg31
Seg7
Seg6
Seg5
Seg4
Seg3
Seg2
Seg1
Seg0
VREG
COM3
COM2
COM1
1.5 SEG7
1.5 SEG6
1.6 SEG5
1.5 SEG4
1.5 SEG3
1.5 SEG2
1.5 SEG1
1.5 SEG0
1.5 COM3
1.5 COM2
1.5 COM1
OSC1
OSC2
V1
V2
V3
VSS
VDD
CK
SI
CS
C/D
COM0
1.6
2.1
3.1
3.0
1.9
3.1
0.1
1.5
R900
1M
C900
0.01u
B
COM0
CN808 20P
1 COM0
2 COM1
3 SEG1
4 SEG2
5 SEG3
6 SEG4
7 SEG5
8 SEG6
9 SEG7
10 SEG8
11 SEG9
12 SEG10
13 SEG11
14 SEG12
15 SEG13
16 SEG0
17 SEG15
18 SEG14
19 COM3
20 COM2
COM3
COM2
SEG1
SEG2
SEG3
SEG4
SEG5
SEG6
SEG7
SEG8
SEG9
SEG10
SEG11
SEG12
SEG13
SEG0
SEG15
SEG14
COM0
COM1
INDICATION LCD
PD-77 BOARD
① TO(1/4)
XCS_LCD
LCD_COM/XDATA
HI_SO
HI_XSCK
D_3.1V
GND
REG_GND_LINE

PD-77 (LCD) SCHEMATIC DIAGRAM

— Ref. No. PD-77 Board, 8,000 Series —

• See page 4-111 for PD-77 BOARD printed wiring board.


1
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3
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5
6
7
8
9
10
11
12
13
14
15
16
A
B
C
D
E
F
G
H
I
J
K
L
PD-77 BOARD(1/4)
(RGB)
IC1802
EVR
D/A CONV
IC1802 AK9813AF-E2
IC1801
RGB
DECODER
IC1801
IR3Y29B4
CPC
CN1804 9P
VR
VG
VB
HSY
GND
SPD
SYNC
COM-O
N C
CN1801 10P
LCD_COM/XDATA
XCS_LCD
HI_SO
HI_XSCK
XCS_PANEL
HI_SI
D_3 1V
REG_GND
PANEL_Y
PANEL_C
TO
CF-46
BOARD
CN405
(SEE PAGE
4-63)
(TO DIS BLOCK)
XCS_LCD
LCD_COM/XDATA
HI_SO
HI_XSCK
D_3 1V
GND
REG_GND_LINE
TO(4/4)
TO(3/4)
D_3 1V
P_4 9V
TO(2/4)
P_7 5V
TO(3/4)
BL_CONT
TO(3/4)
COM-OUT
SPD
COM-O
FRPV
FRPT
SYNC
HSY
V_COM
H_POS
VCO
REG_GND_LINE
GND
VB
VG
VR
TO(2/3)
DA_XCS
DA_DO
DA_CLK
DA_DI
Q1803
2SD1819A-QRS-TX
Q1802
2SB1218A-QRS-TX
Q1801
Q1805
HUE/BCL
COLOR
16

⟨Mount table for each function⟩

Ref_No	NTSC	PAL
C1818	XX	680p
C1821	XX	0 01u
C1825	XX	0 01u
C1828	XX	0.01u
C1829	XX	0 01u
C1830	XX	39p
D1801	XX	1T369-01-T
L1804	XX	27uH
Q1805	XX	2SD1819A-Q
R1831	XX	10M
R1832	27k	39k
R1833	12k	22k
R1835	XX	39k
R1841	XX	22k
R1845	XX	47k
R1848	2200	680
R1849	XX	5600
R1850	XX	4700
R1854	27k	XX
R1856	22k	XX
R1857	68k	0
X1801	3 579545MH	4 433619MH

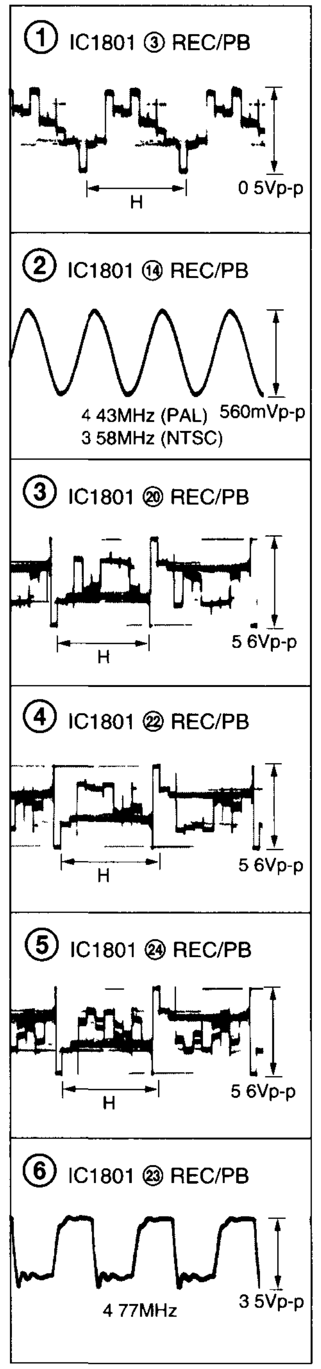
NO MARK REC/PB MODE
R REC MODE
P PB MODE

* Refer to the mount table for each function
xx No mount

•SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡》		
PB	⇨	⇨》		

PD-77 BOARD (1/4)

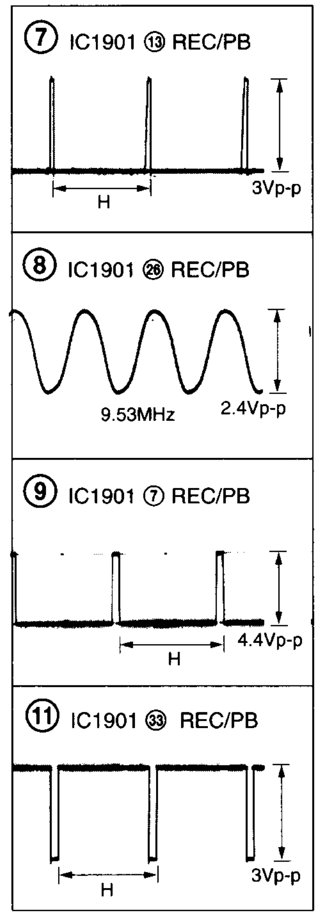


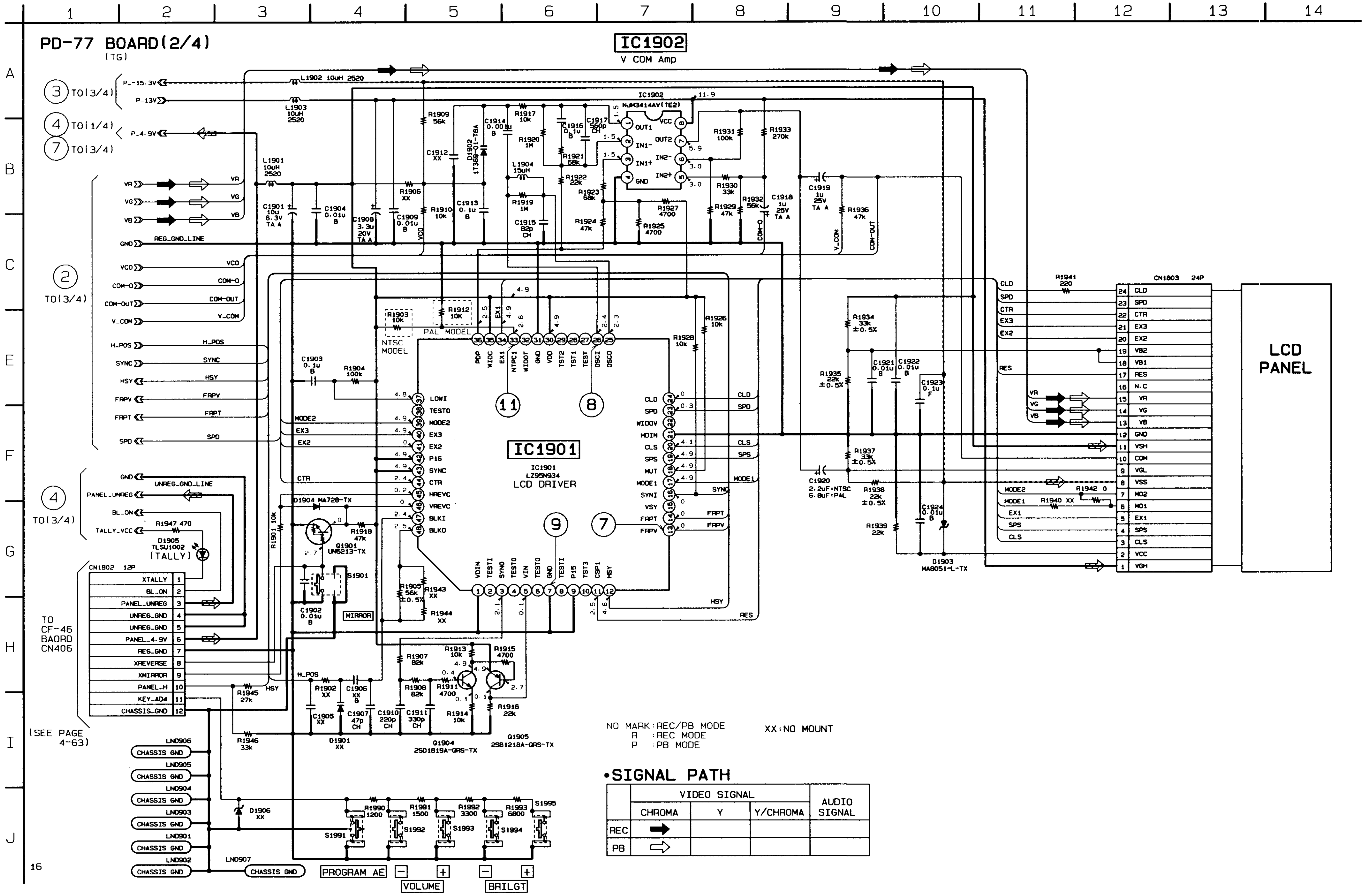
PD-77 (LCD) SCHEMATIC DIAGRAM

— Ref. No. PD-77 Board; 8,000 Series —

- See page 4-111 for PD-77 BOARD printed wiring board.

PD-77 BOARD (2/4)




1
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7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J
PD-77 BOARD(2/4)
(TG)
IC1902
V COM Amp
③ TO(3/4)
P_-15.3V
P_13V
④ TO(1/4)
⑦ TO(3/4)
P_4.9V
② TO(3/4)
VR
VG
VB
GND
REG_GND_LINE
VCO
COM-O
COM-OUT
V_COM
H_POS
SYNC
HSY
FRPV
FRPT
SPD
④ TO(3/4)
UNREG_GND_LINE
PANEL_UNREG
BL_ON
TALLY_VCC
R1947 470
D1905 TLSU1002 (TALLY)
CN1802 12P
XTALLY
BL_ON
PANEL_UNREG
UNREG_GND
UNREG_GND
PANEL_4.9V
REG_GND
XREVERSE
XMIRROR
PANEL_H
KEY_AD4
CHASSIS_GND
TO CF-46 BAORD CN406
(SEE PAGE 4-63)
L1902 10uH 2520
L1903 10uH 2520
L1901 10uH 2520
IC1902 NJM3414AV(TE2)
OUT1
IN1-
IN1+
GND
VCC
OUT2
IN2-
IN2+
D1902 1T369-01-T8A
L1904 15uH
IC1901 LZ95N934 LCD DRIVER
NTSC MODEL
PAL MODEL
POP
WIDC
EX1
NTPC1
WIDOT
GND
VDD
TST2
TST1
TESTI
OSCI
OSCO
LOWI
TESTO
MODE2
EX3
EX2
P15
SYNC
CTR
HREVC
VREVC
BLKI
BLKO
CLD
SPD
WIDOV
HDIN
CLS
SPS
MUT
MODE1
SYNI
VSY
FRPT
FRPV
VDIN
SYNO
VIN
TST3
CSP1
HSY
RES
D1904 MA728-TX
Q1901 UN5213-TX
S1901
MIRROR
Q1904 2SD1819A-QRS-TX
Q1905 2SB1218A-QRS-TX
D1901 XX
D1906 XX
LND906
LND905
LND904
LND903
LND901
LND902
LND907
CHASSIS GND
S1991
S1992
S1993
S1994
S1995
R1990 1200
R1991 1500
R1992 3300
R1993 6800
PROGRAM AE
VOLUME
BRILGT
16
CN1803 24P
CLD
SPD
CTR
EX3
EX2
VB2
VB1
RES
N.C
VR
VG
VB
GND
VSH
COM
VGL
VSS
MO2
MO1
EX1
SPS
CLS
VCC
VGH
R1941 220
R1942 0
R1940 XX
D1903 MA8051-L-TX
C1920 2.2uF:NTSC 6.8uF:PAL
LCD PANEL
NO MARK:REC/PB MODE
R :REC MODE
P :PB MODE
XX:NO MOUNT

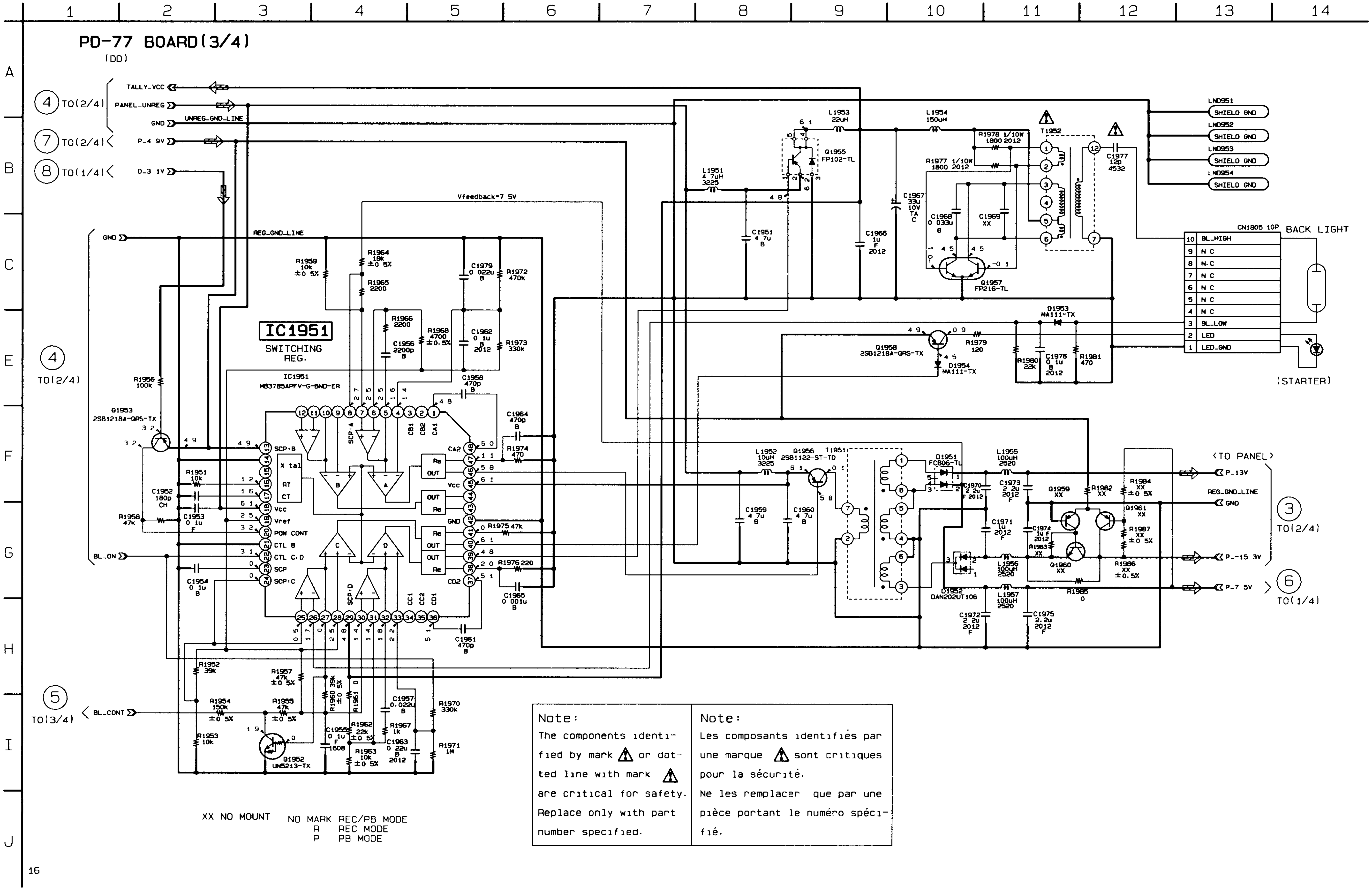
•SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡			
PB	⇨			

PD-77 (LCD) SCHEMATIC DIAGRAM

— Ref. No. PD-77 Board, 8,000 Series —

• See page 4-111 for PD-77 BOARD printed wiring board.


1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H I J
PD-77 BOARD(3/4)
(DD)
④ TO(2/4)
TALLY_VCC
PANEL_UNREG
GND
UNREG_GND_LINE
⑦ TO(2/4)
P_4 9V
⑧ TO(1/4)
D_3 1V
GND
REG_GND_LINE
Vfeedback=7 5V
IC1951
SWITCHING REG.
IC1951 MB3785APFV-G-BND-ER
④ TO(2/4)
R1956 100k
Q1953 2SB1218A-QRS-TX
R1951 10k
C1952 180p CH
R1958 47k
C1953 0 1u F
C1954 0 1u B
BL_ON
R1959 10k ±0 5%
R1964 18k ±0 5%
R1965 2200
R1966 2200
C1956 2200p B
R1968 4700 ±0 5%
C1979 0 022u B
R1972 470k
C1962 0 1u B 2012
R1973 330k
C1958 470p B
C1964 470p B
R1974 470
R1975 47k
R1976 220
C1965 0 001u B
C1961 470p B
SCP:B
X tal
RT
CT
Vcc
Vref
POW CONT
CTL B
CTL C·D
SCP
SCP:C
CA2
Re
OUT
GND
CD2
CB1 CB2 CA1
CC1 CC2 CD1
SCP:A
SCP:D
R1952 39k
R1957 47k ±0 5%
R1954 150k ±0 5%
R1955 47k ±0 5%
R1953 10k
Q1952 UN5213-TX
R1960 39k ±0 5%
R1961 0
C1955 0 1u F 1608
R1962 22k ±0 5%
R1963 10k ±0 5%
C1957 0.022u B
R1967 1k
C1963 0 22u B 2012
R1970 330k
R1971 1M
⑤ TO(3/4)
BL_CONT
L1951 4 7uH 3225
C1951 4 7u B
L1953 22uH
Q1955 FP102-TL
L1954 150uH
C1966 1u F 2012
C1967 33u 10V TA C
R1978 1/10W 1800 2012
R1977 1/10W 1800 2012
C1968 0 033u B
C1969 XX
T1952
C1977 12p 4532
Q1957 FP216-TL
LND951 SHIELD GND
LND952 SHIELD GND
LND953 SHIELD GND
LND954 SHIELD GND
CN1805 10P
BACK LIGHT
10 BL_HIGH
9 N C
8 N C
7 N C
6 N C
5 N C
4 N C
3 BL_LOW
2 LED
1 LED_GND
(STARTER)
D1953 MA111-TX
Q1958 2SB1218A-QRS-TX
R1979 120
D1954 MA111-TX
R1980 22k
C1976 0 1u B 2012
R1981 470
L1952 10uH 3225
Q1956 2SB1122-ST-TD
T1951
C1959 4 7u B
C1960 4 7u B
D1951 FC806-TL
C1970 2 2u F 2012
L1955 100uH 2520
C1973 2 2u 2012 F
C1971 1u 2012 F
C1974 1u F 2012
R1983 XX
D1952 DAN202UT106
L1956 100uH 2520
L1957 100uH 2520
C1972 2 2u 2012 F
C1975 2.2u 2012 F
Q1959 XX
R1982 XX
R1984 XX ±0 5%
Q1961 XX
R1987 XX ±0 5%
Q1960 XX
R1986 XX ±0.5%
R1985 0
<TO PANEL>
P_13V
REG_GND_LINE
GND
P_-15 3V
P_7 5V
③ TO(2/4)
⑥ TO(1/4)
16

XX NO MOUNT

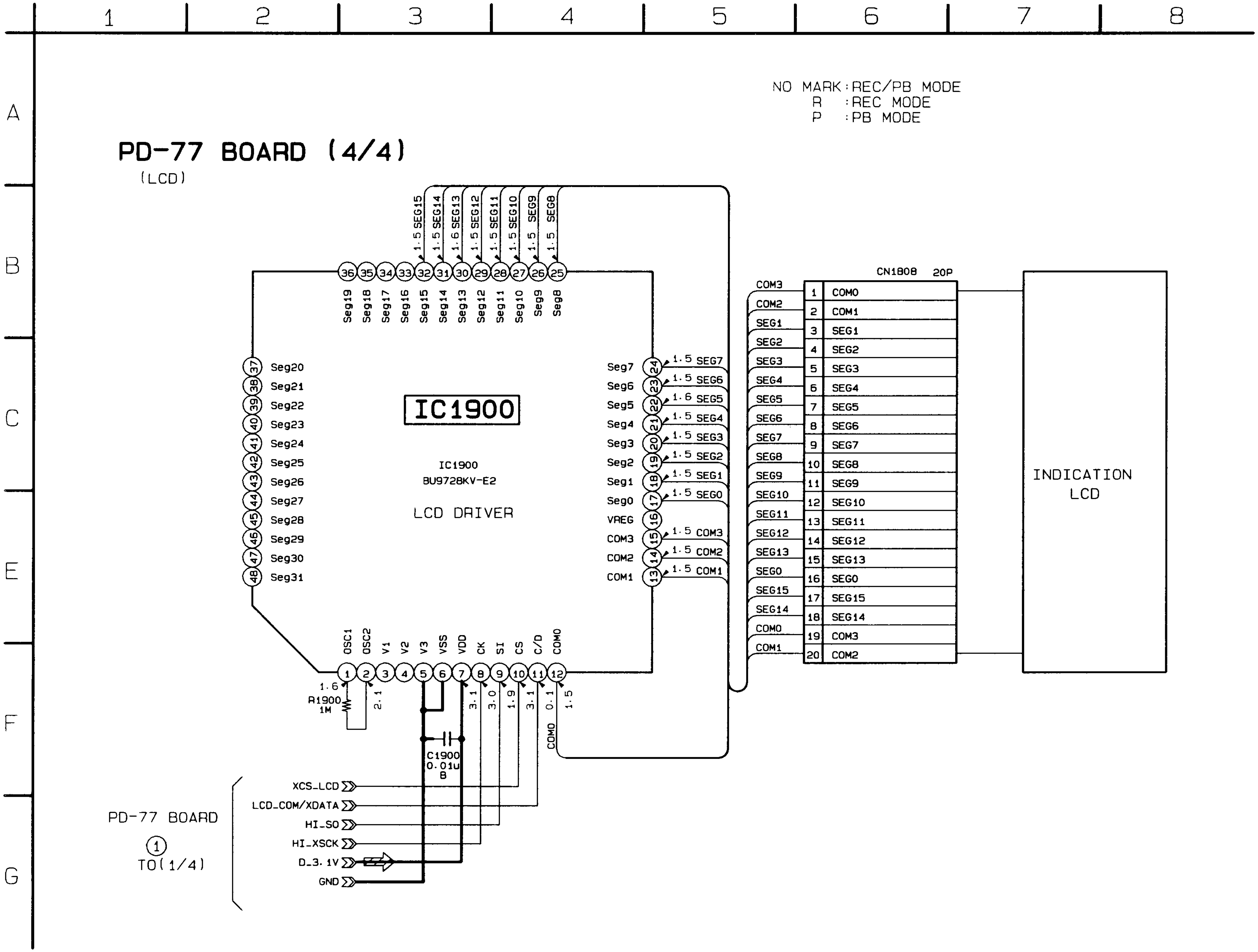
NO MARK REC/PB MODE
R REC MODE
P PB MODE

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

PD-77 (LCD) SCHEMATIC DIAGRAM

— Ref. No. PD-77 Board; 8,000 Series —

• See page 4-111 for PD-77 BOARD printed wiring board.

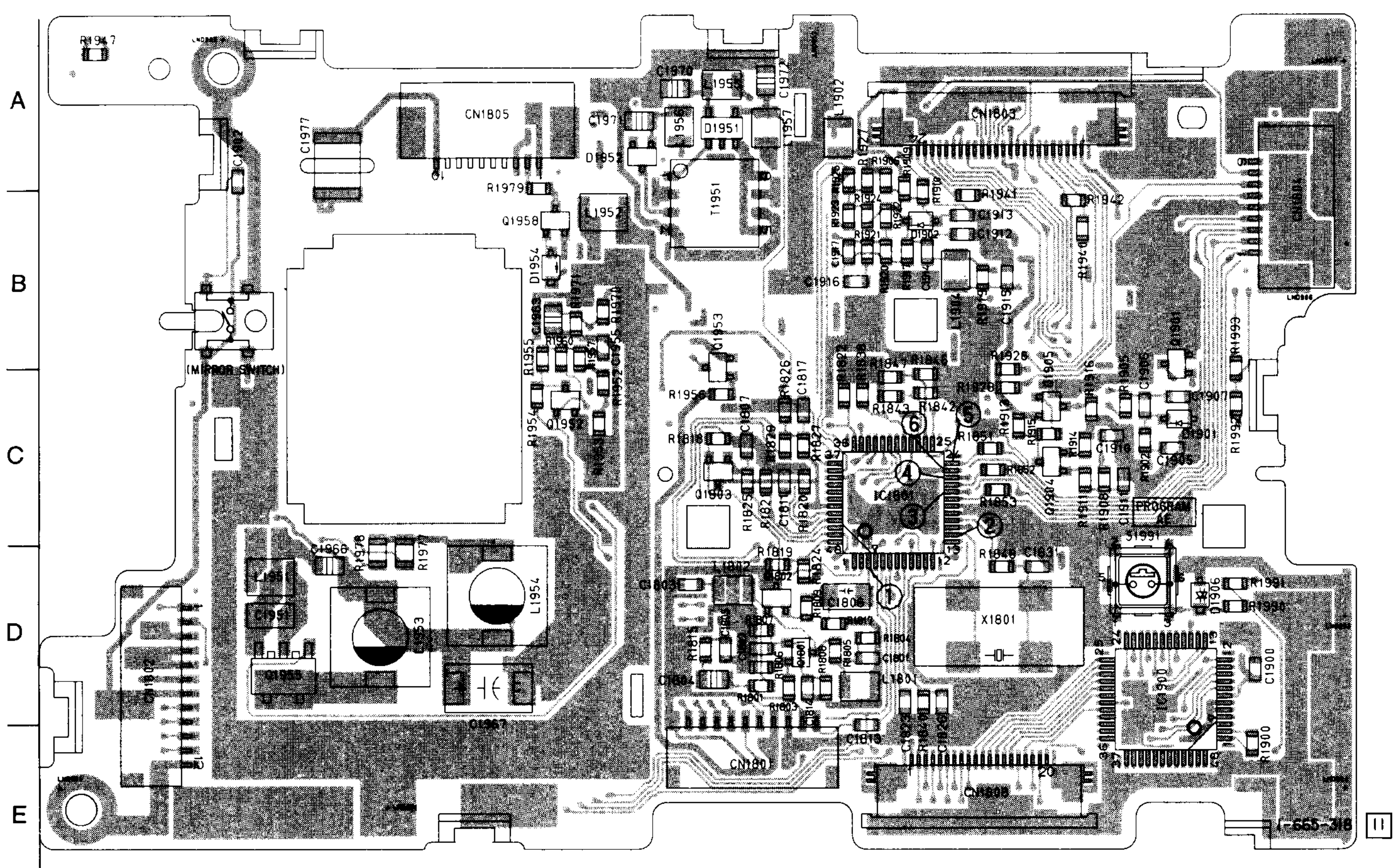

1
2
3
4
5
6
7
8
A
B
C
D
E
F
G
NO MARK : REC/PB MODE
R : REC MODE
P : PB MODE
PD-77 BOARD (4/4)
(LCD)
IC1900
IC1900
BU9728KV-E2
LCD DRIVER
Seg19 Seg18 Seg17 Seg16 Seg15 Seg14 Seg13 Seg12 Seg11 Seg10 Seg9 Seg8
1.5 SEG15
1.5 SEG14
1.6 SEG13
1.5 SEG12
1.5 SEG11
1.5 SEG10
1.5 SEG9
1.5 SEG8
Seg20 Seg21 Seg22 Seg23 Seg24 Seg25 Seg26 Seg27 Seg28 Seg29 Seg30 Seg31
Seg7 Seg6 Seg5 Seg4 Seg3 Seg2 Seg1 Seg0 VREG COM3 COM2 COM1
1.5 SEG7
1.5 SEG6
1.6 SEG5
1.5 SEG4
1.5 SEG3
1.5 SEG2
1.5 SEG1
1.5 SEG0
1.5 COM3
1.5 COM2
1.5 COM1
OSC1 OSC2 V1 V2 V3 VSS VDD CK SI CS C/D COM0
1.6
2.1
3.1
3.0
1.9
3.1
0.1
1.5
COM0
R1900
1M
C1900
0.01u
B
CN1808 20P
1 COM0
2 COM1
3 SEG1
4 SEG2
5 SEG3
6 SEG4
7 SEG5
8 SEG6
9 SEG7
10 SEG8
11 SEG9
12 SEG10
13 SEG11
14 SEG12
15 SEG13
16 SEG0
17 SEG15
18 SEG14
19 COM3
20 COM2
COM3 COM2 SEG1 SEG2 SEG3 SEG4 SEG5 SEG6 SEG7 SEG8 SEG9 SEG10 SEG11 SEG12 SEG13 SEG0 SEG15 SEG14 COM0 COM1
INDICATION
LCD
PD-77 BOARD
①
TO(1/4)
XCS_LCD
LCD_COM/XDATA
HI_SO
HI_XSCK
D_3.1V
GND

PD-77 (LCD) PRINTED WIRING BOARD

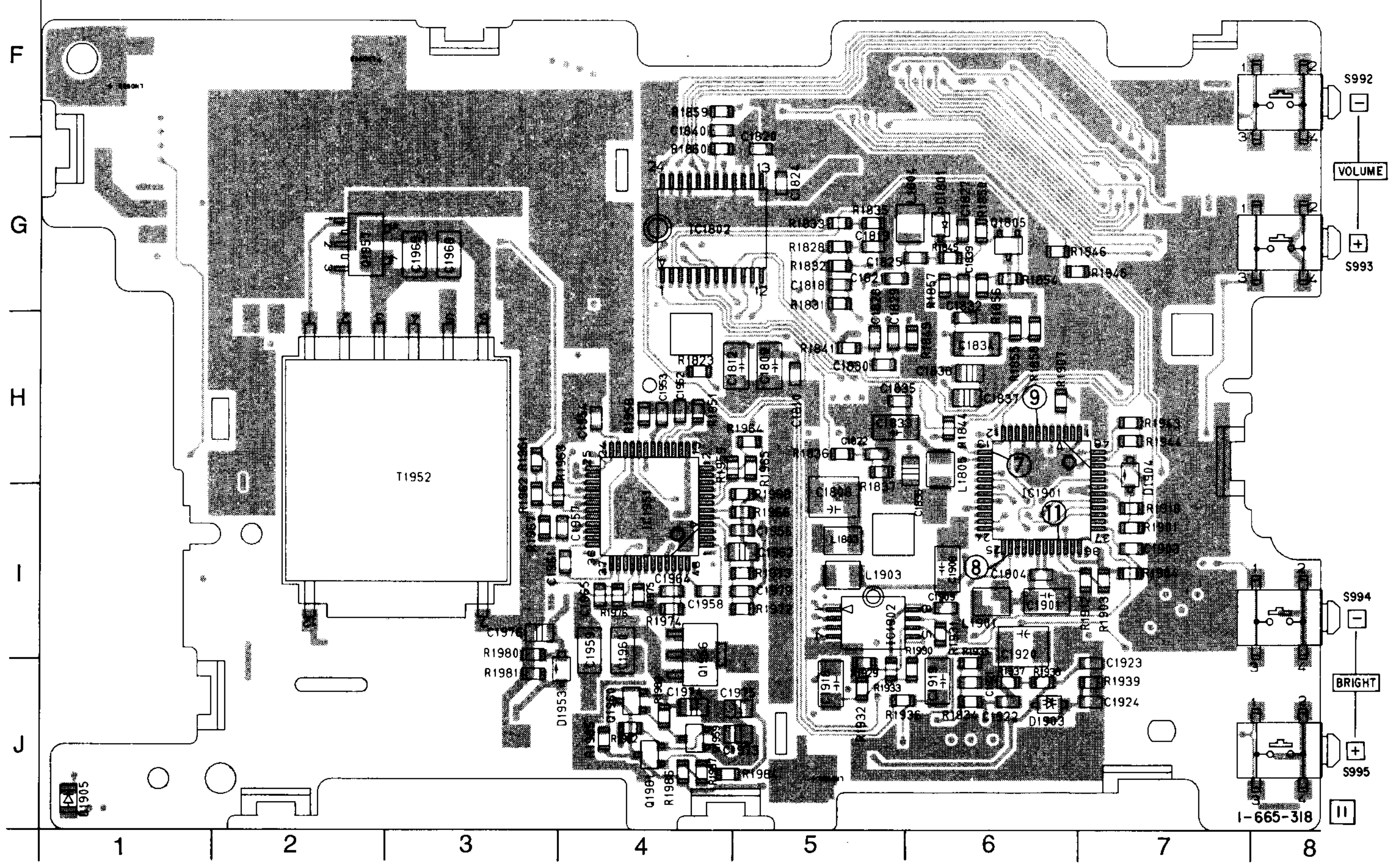
— Ref. No. PD-77 Board; 8,000 Series —

There are few cases that the part printed on this diagram isn't mounted in this model.

PD-77 BOARD (SIDE A)

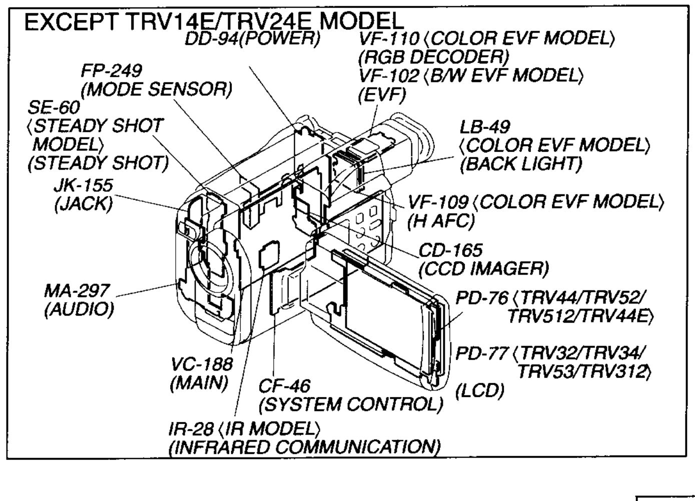

A
B
C
D
E
CN1805
T1951
MIRROR SWITCH
CN1803
IC1801
X1801
PROGRAM AE
S1991
IC1900
CN1808
CN1801
L1954
1-665-318

PD-77 BOARD (SIDE B)


F
G
H
I
J
1
2
3
4
5
6
7
8
T1952
IC1802
IC1901
L1903
S992
VOLUME
S993
S994
BRIGHT
S995
1-665-318

PD-77 BOARD

C1804	D-4	C1959	J-4	L1954	D-3	R1900	D-7	R1963	H-3
C1805	D-4	C1960	J-4	L1955	A-4	R1901	I-7	R1964	H-5
C1806	D-5	C1961	I-3	L1956	A-4	R1903	I-7	R1965	H-5
C1808	H-5	C1962	I-5	L1957	A-4	R1904	I-7	R1966	H-5
C1810	H-5	C1963	B-4			R1905	C-7	R1967	I-3
C1811	C-5	C1964	I-4	Q1802	D-5	R1907	H-6	R1968	H-5
C1812	H-4	C1965	I-4	Q1803	C-4	R1908	D-6	R1970	B-4
C1813	E-5	C1966	D-1	Q1901	C-7	R1909	B-5	R1971	B-4
C1820	G-5	C1967	E-3	Q1904	C-6	R1910	B-5	R1972	I-5
C1822	H-5	C1968	G-3	Q1905	C-6	R1911	D-6	R1973	I-5
C1823	E-5	C1970	A-4	Q1952	C-3	R1913	C-6	R1974	I-4
C1824	G-5	C1971	A-4	Q1953	C-5	R1914	C-6	R1975	I-4
C1826	E-6	C1972	A-5	Q1953	C-5	R1915	C-6	R1976	I-4
C1831	D-6	C1973	J-5	Q1955	D-1	R1916	C-6	R1977	D-3
C1832	G-6	C1974	J-4	Q1956	I-4	R1917	B-5	R1978	D-2
C1833	H-5	C1975	J-5	Q1957	G-3	R1918	I-7	R1979	B-3
C1834	H-6	C1976	I-3	Q1958	B-3	R1919	B-6	R1980	I-3
C1835	H-5	C1977	A-1			R1920	B-5	R1981	I-3
C1836	I-6	C1979	I-5	R1801	D-5	R1921	B-5	R1985	J-4
C1837	H-6			R1809	D-5	R1922	B-5	R1990	D-7
C1838	H-6	CN1801	E-4	R1815	D-4	R1923	B-5	R1991	D-7
C1840	G-4	CN1802	D-1	R1817	D-5	R1924	B-5	R1992	C-7
C1900	D-7	CN1803	A-6	R1818	C-4	R1925	B-5	R1993	C-7
C1901	I-6	CN1804	B-8	R1819	D-5	R1926	C-6		
C1902	A-1	CN1805	A-3	R1820	D-5	R1927	B-5	S1901	D-1
C1903	I-7	CN1808	E-6	R1821	C-5	R1928	C-6	S1991	C-7
C1904	I-6			R1823	H-4	R1929	J-5	S1992	F-8
C1907	C-7	D1902	B-6	R1824	D-5	R1930	I-6	S1993	G-8
C1908	I-6	D1903	J-6	R1826	C-5	R1931	I-6	S1994	I-8
C1909	I-6	D1904	H-7	R1827	C-5	R1932	J-5	S1995	J-8
C1910	C-7	D1905	J-1	R1829	C-5	R1933	J-5		
C1911	C-7	D1951	A-4	R1832	G-5	R1934	J-6	T1951	B-4
C1913	B-6	D1952	A-4	R1833	G-5	R1935	J-6	T1952	H-3
C1914	B-5	D1953	J-4	R1836	H-5	R1936	J-5		
C1915	B-6	D1954	B-4	R1837	H-5	R1937	J-6	X1801	D-6
C1916	B-5			R1838	C-5	R1938	I-6		
C1917	B-5	IC1801	C-5	R1840	E-6	R1939	J-7		
C1918	I-5	IC1802	G-4	R1842	C-6	R1941	B-6		
C1919	J-6	IC1900	E-7	R1843	C-6	R1942	B-6		
C1920	I-6	IC1901	H-6	R1846	C-6	R1947	A-1		
C1921	J-6	IC1902	I-5	R1847	C-6	R1951	H-4		
C1922	J-6	IC1951	I-4	R1848	D-6	R1952	C-4		
C1923	J-7			R1851	C-6	R1953	C-4		
C1924	J-7	L1803	I-5	R1852	C-6	R1954	C-4		
C1951	D-1	L1805	H-6	R1853	C-6	R1955	H-6		
C1952	H-4	L1901	I-5	R1854	G-6	R1956	H-6		
C1953	H-4	L1902	A-5	R1855	B-4	R1957	C-4		
C1954	H-4	L1903	I-5	R1856	C-4	R1958	H-4		
C1955	C-4	L1904	B-6	R1857	G-6	R1959	H-4		
C1956	I-5	L1951	D-1	R1858	H-6	R1960	B-3		
C1957	I-4	L1952	B-4	R1859	G-4	R1961	H-3		
C1958	I-4	L1953	D-2	R1860	G-4	R1962	I-3		


EXCEPT TRV14E/TRV24E MODEL
DD-94(POWER)
VF-110 (COLOR EVF MODEL) (RGB DECODER)
VF-102 (B/W EVF MODEL) (EVF)
FP-249 (MODE SENSOR)
SE-60 (STEADY SHOT MODEL) (STEADY SHOT)
LB-49 (COLOR EVF MODEL) (BACK LIGHT)
JK-155 (JACK)
VF-109 (COLOR EVF MODEL) (H AFC)
CD-165 (CCD IMAGER)
PD-76 (TRV44/TRV52/ TRV512/TRV44E)
MA-297 (AUDIO)
PD-77 (TRV32/TRV34/ TRV53/TRV312) (LCD)
VC-188 (MAIN)
CF-46 (SYSTEM CONTROL)
IR-28 (IR MODEL) (INFRARED COMMUNICATION)

PD-74 (LCD DRIVER) PRINTED WIRING BOARD

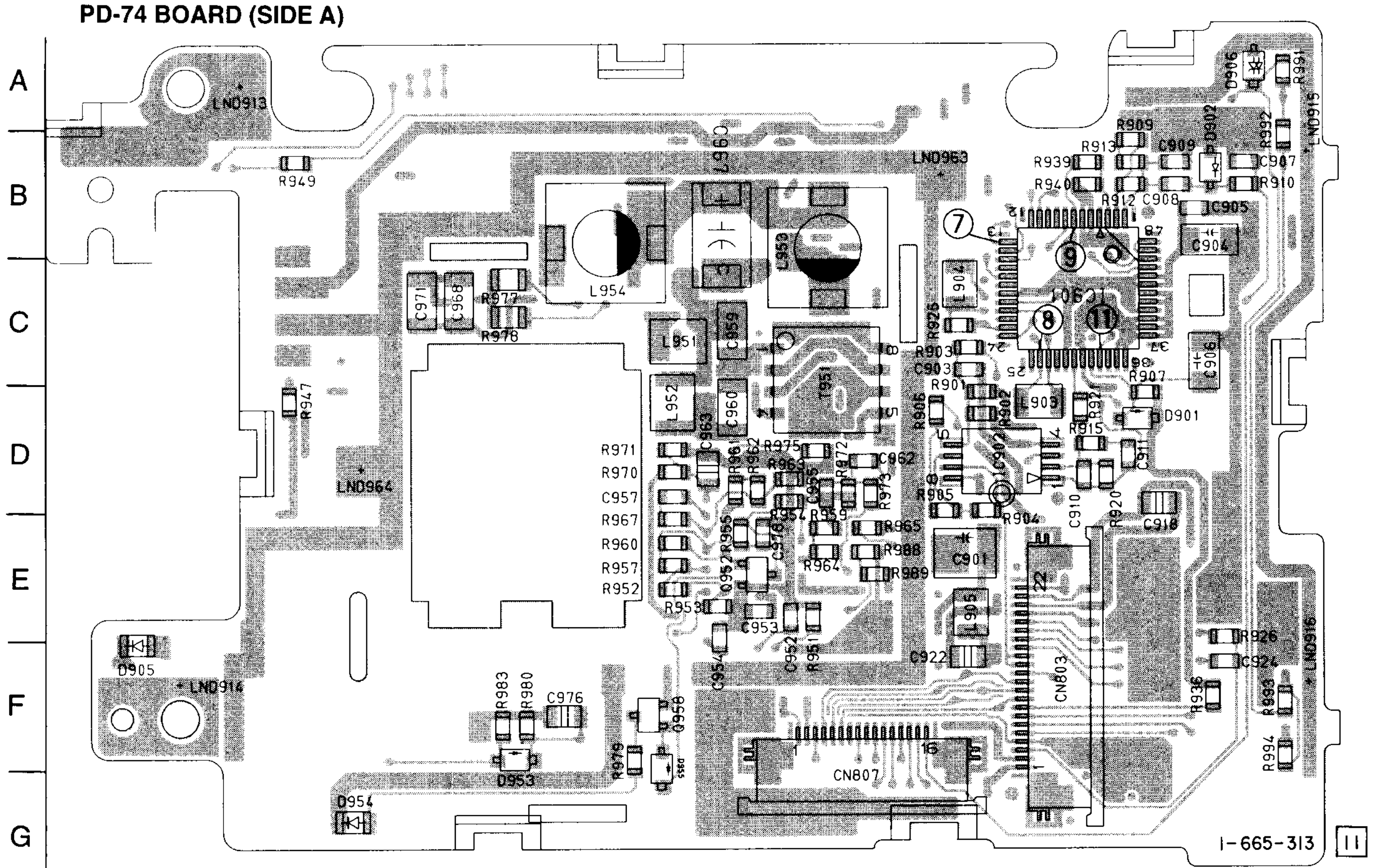
— Ref. No. PD-74 Board; 8,000 Series —

There are few cases that the part printed on this diagram isn't mounted in this model.

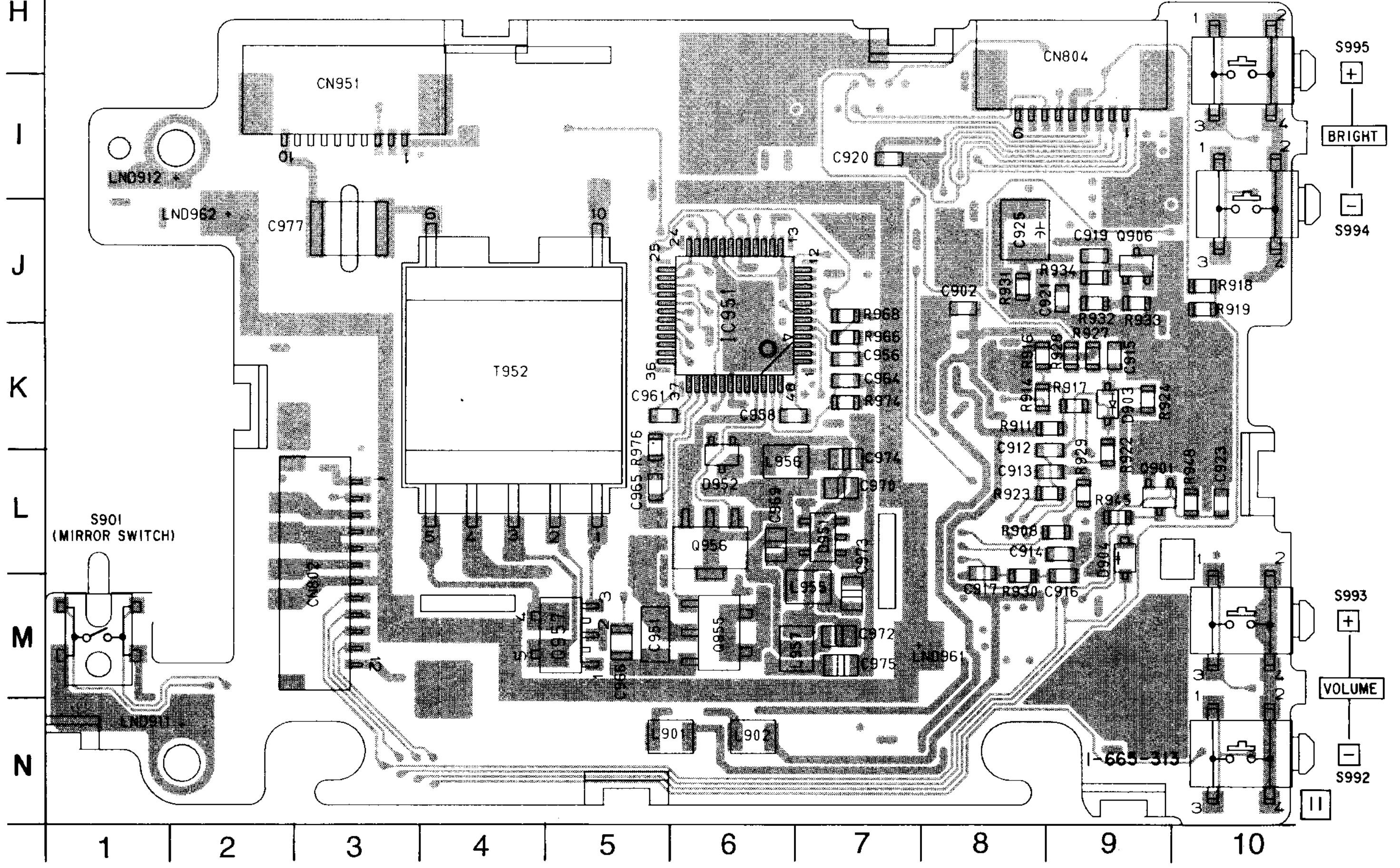
PD-74 BOARD

C901	E-7
C902	J-8
C903	C-8
C904	C-9
C905	B-9
C906	D-9
C909	B-9
C910	D-8
C911	D-9
C912	L-8
C913	L-8
C915	K-9
C918	E-9
C919	J-9
C920	I-7
C921	J-9
C922	F-7
C923	L-10
C924	F-10
C925	F-8
C951	M-5
C952	E-6
C953	E-6
C954	F-6
C955	D-6
C956	K-7
C957	D-5
C958	K-6
C959	C-6
C960	D-6
C961	K-5
C962	D-7
C963	D-6
C964	K-7
C965	L-5
C966	M-5
C967	B-6
C968	C-4
C969	L-6
C970	L-7
C972	M-7
C973	M-7
C974	L-7
C975	M-7
C976	F-4
C977	J-3
C978	E-6
CN802	L-3
CN803	F-8
CN804	H-8
CN807	G-7
CN951	I-3
D901	D-9
D903	K-9
D904	L-9
D905	F-1
D951	L-7
D952	L-6
D953	F-4
D954	G-3
D955	G-5
IC901	C-9
IC902	D-8
IC951	K-6
L901	N-6
L902	N-6
L903	D-8
L905	F-7
L951	C-5
L952	D-5
L953	C-6
L954	C-5
L955	M-7
L956	L-6
L957	M-6
Q901	L-9
Q906	J-9
Q952	E-6
Q955	M-6
Q956	L-6
Q957	M-5
Q958	F-5
R901	D-8
R902	D-8
R903	C-8
R904	D-8
R905	D-7
R906	D-7
R907	D-9
R908	L-8
R909	B-9
R911	K-8
R913	B-9
R914	K-9
R915	D-8
R916	K-9
R917	K-9
R918	J-10
R920	D-9
R921	D-8
R922	L-9
R923	L-8
R927	K-9
R928	K-9
R931	J-8
R932	J-9
R933	J-9
R934	J-9
R936	F-9
R940	B-8
R945	L-9
R947	D-2
R949	B-2
R951	E-6
R952	E-5
R953	E-6
R954	D-6
R955	E-6
R957	E-5
R959	E-6
R960	E-5
R961	D-6
R962	D-6
R963	D-6
R964	E-6
R965	E-7
R966	J-7
R967	E-5
R968	J-7
R970	D-5
R971	D-5
R972	D-7
R973	D-7
R974	K-7
R975	D-6
R976	K-5
R977	C-4
R978	C-4
R979	G-5
R980	F-4
R983	F-4
R988	E-7
R989	E-7
R991	A-10
R992	B-10
R993	F-10
R994	F-10
S901	L-1
S992	N-10
S993	M-10
S994	I-10
S995	H-10
T951	D-6
T952	K-4

PD-74 BOARD (SIDE A)


A
B
C
D
E
F
G
LND913
LND963
LND915
LND916
LND914
LND964
R949
L954
L904
L951
L952
L953
L959
L960
L905
L903
T951
IC901
IC902
C901
C903
C904
C905
C906
C907
C908
C909
C910
C911
C918
C922
C924
C953
C957
C971
C976
CN803
CN807
D901
D902
D905
D906
D953
D954
Q958
R901
R903
R904
R907
R909
R910
R912
R913
R915
R920
R926
R936
R939
R940
R947
R952
R953
R957
R960
R964
R965
R967
R970
R971
R975
R977
R978
R979
R980
R983
R988
R989
R991
R992
R993
R994
1-665-313
11

PD-74 BOARD (SIDE B)


H
I
J
K
L
M
N
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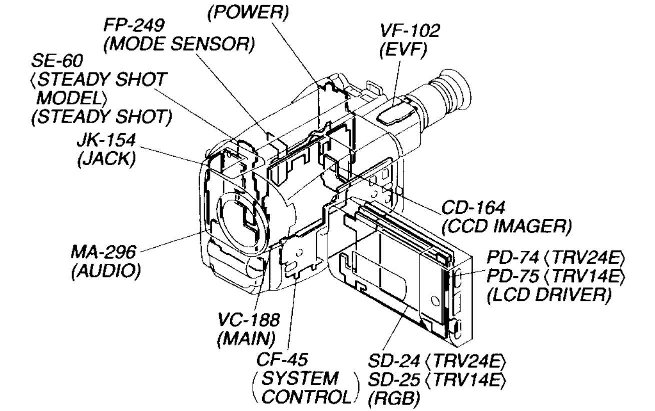
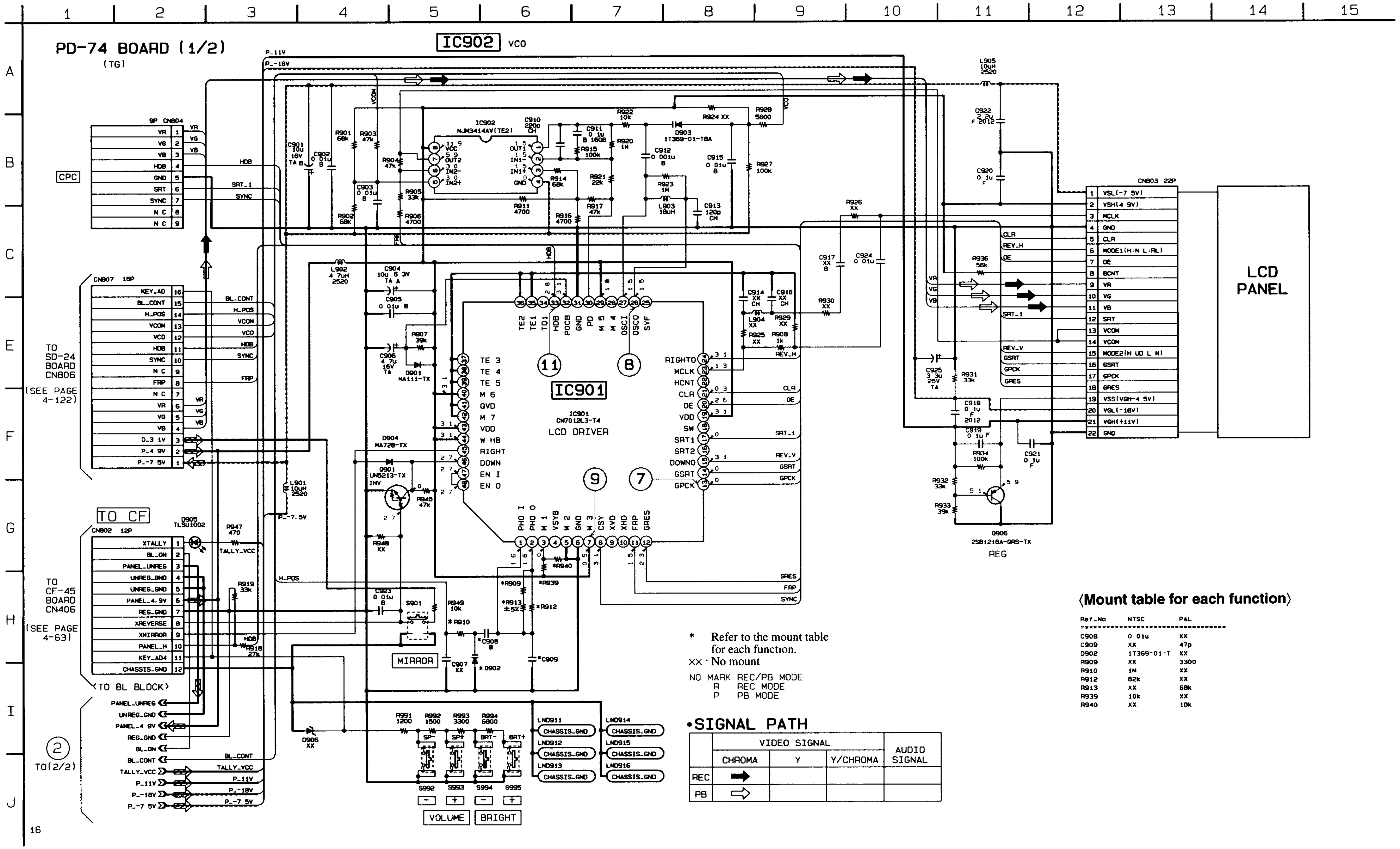
2
3
4
5
6
7
8
9
10
CN951
CN804
CN802
LND912
LND962
LND911
LND961
T952
IC951
C902
C912
C913
C914
C916
C917
C919
C920
C923
C925
C930
C961
C964
C966
C968
C974
C977
D952
D903
Q906
Q901
Q955
Q956
L901
L902
L955
L956
R908
R911
R917
R918
R919
R923
R927
R931
R932
R933
R934
R945
R966
R968
R974
R976
S901
(MIRROR SWITCH)
S995
S994
S993
S992
BRIGHT
VOLUME
+
−
1-665-313
11

TRV14E/TRV24E MODEL


DD-94
(POWER)
FP-249
(MODE SENSOR)
VF-102
(EVF)
SE-60
(STEADY SHOT
MODEL)
(STEADY SHOT)
JK-154
(JACK)
CD-164
(CCD IMAGER)
MA-296
(AUDIO)
PD-74 (TRV24E)
PD-75 (TRV14E)
(LCD DRIVER)
VC-188
(MAIN)
CF-45
(SYSTEM
CONTROL)
SD-24 (TRV24E)
SD-25 (TRV14E)
(RGB)

PD-74 (LCD DRIVER) SCHEMATIC DIAGRAM

— Ref. No PD-74 Board; 8,000 Series —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14
15
A
B
C
D
E
F
G
H
I
J
PD-74 BOARD (1/2)
(TG)
IC902 VCO
IC902
NJM3414AV(TE2)
IC901
CM7012L3-T4
LCD DRIVER
CPC
9P CN804
CN807 16P
TO
SD-24
BOARD
CN806
(SEE PAGE
4-122)
TO CF
CN802 12P
TO
CF-45
BOARD
CN406
(SEE PAGE
4-63)
(TO BL BLOCK)
②
TO(2/2)
CN803 22P
1 VSL(-7 5V)
2 VSH(4 9V)
3 MCLK
4 GND
5 CLR
6 MODE1(H:N L:RL)
7 OE
8 BCNT
9 VR
10 VG
11 VB
12 SRT
13 VCOM
14 VCOM
15 MODE2(H UD L N)
16 GSRT
17 GPCK
18 GRES
19 VSS(VGH-4 5V)
20 VGL(-18V)
21 VGH(+11V)
22 GND
LCD
PANEL
Q906
2SB1218A-QRS-TX
REG
S901
MIRROR
S992
S993
S994
S995
VOLUME
BRIGHT
16

* Refer to the mount table for each function.
XX · No mount

NO MARK REC/PB MODE
R REC MODE
P PB MODE

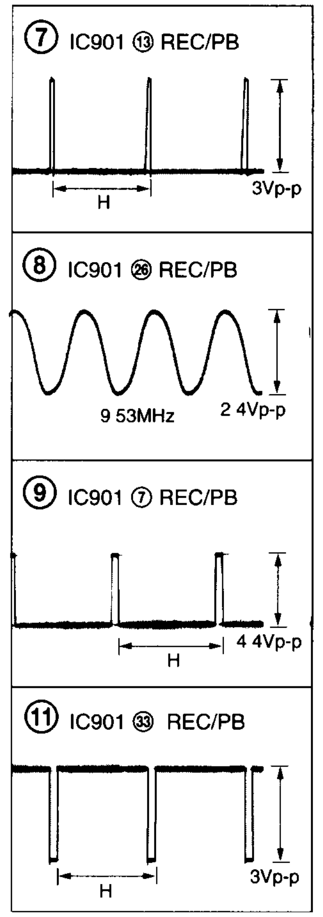
•SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡			
PB	⇨			

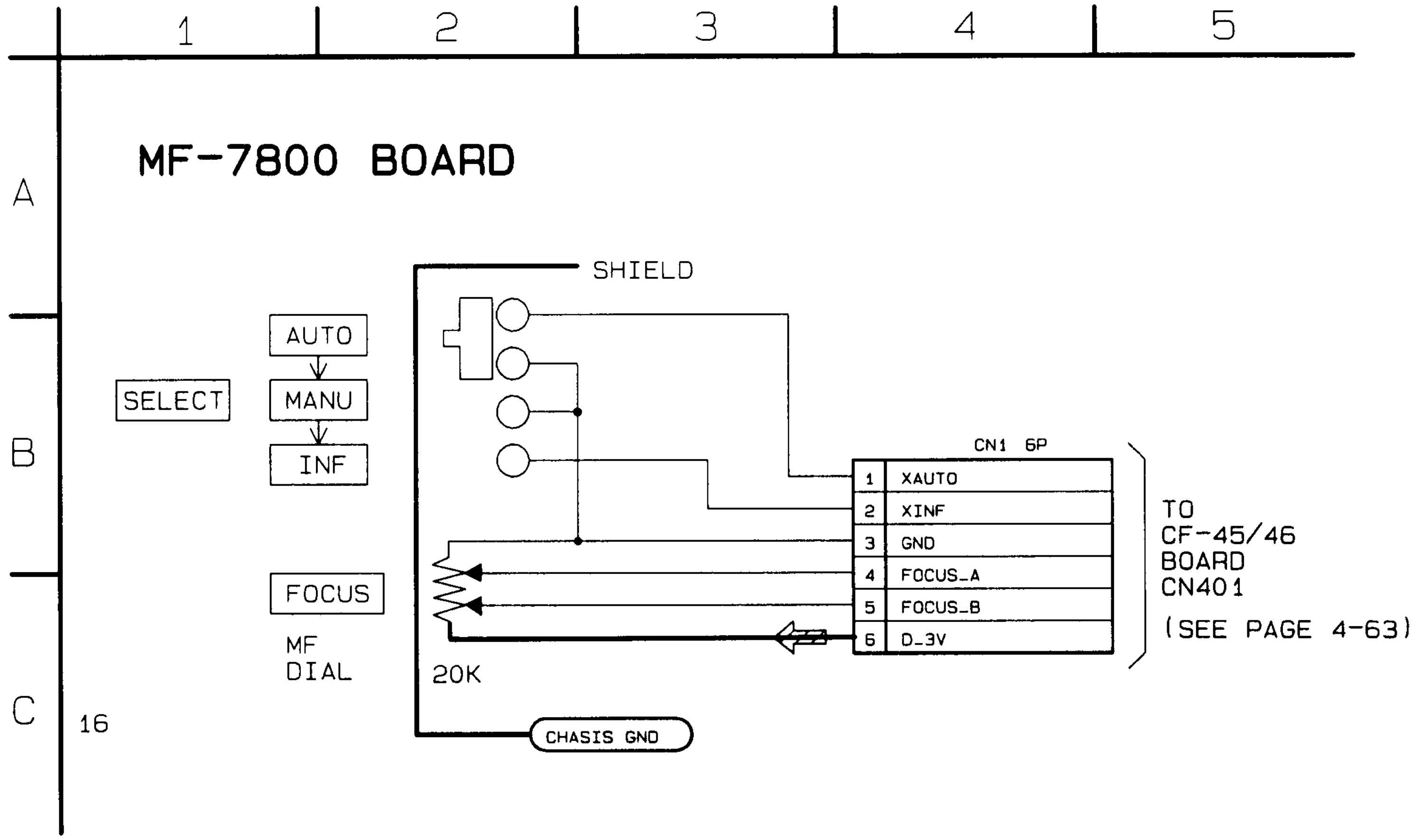
⟨Mount table for each function⟩

Ref_No	NTSC	PAL
C908	0 01u	XX
C909	XX	47p
D902	1T369-01-T	XX
R909	XX	3300
R910	1M	XX
R912	82k	XX
R913	XX	68k
R939	10k	XX
R940	XX	10k

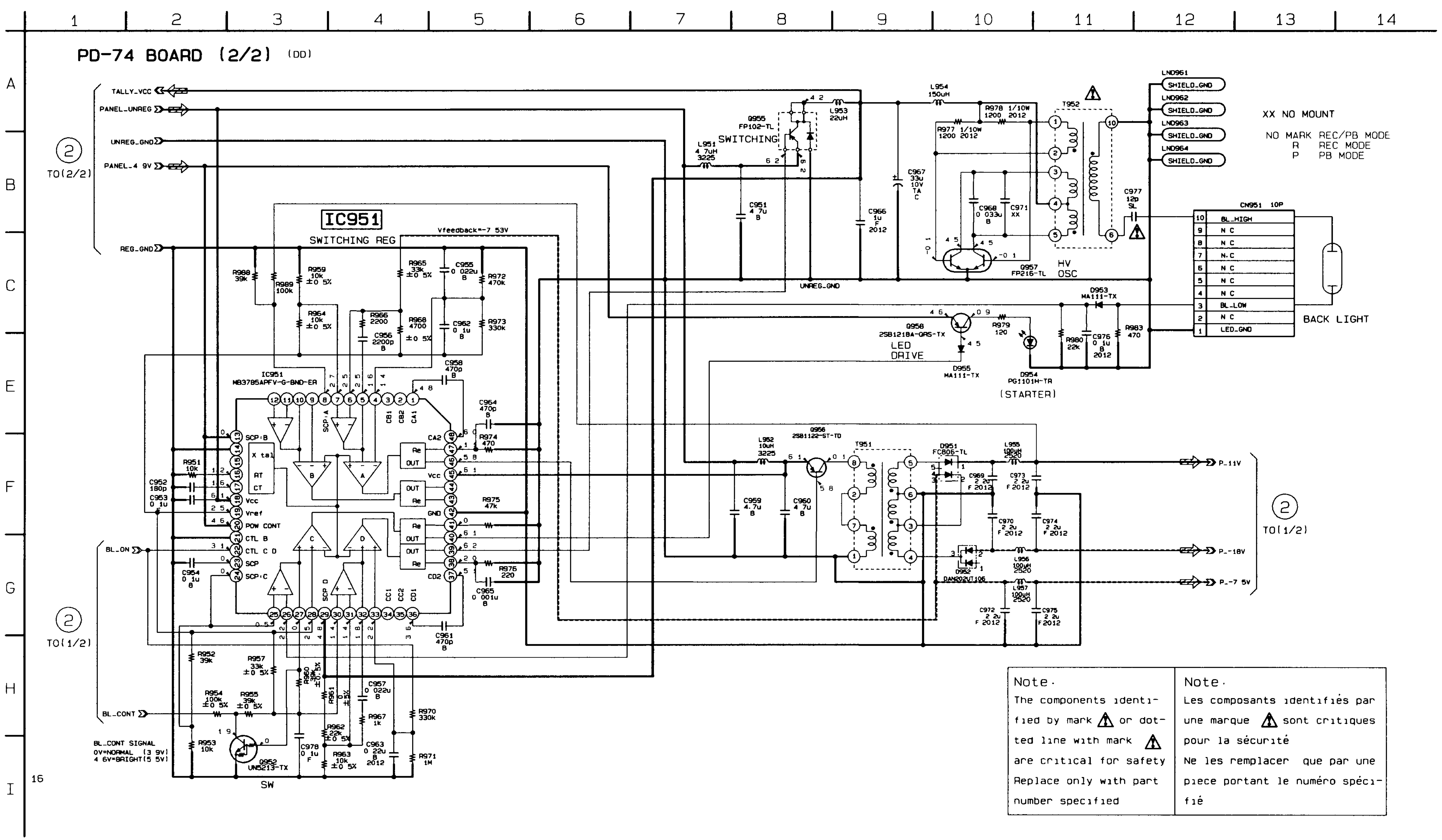
PD-74 BOARD (1/2)



MF-7800 (FOCUS) SCHEMATIC DIAGRAM • Replaced are Blocks, so that there PRINTED WIRING BOARD are omitted.


1
2
3
4
5
A
B
C
MF-7800 BOARD
SHIELD
SELECT
AUTO
MANU
INF
FOCUS
MF DIAL
20K
CN1 6P
1 XAUTO
2 XINF
3 GND
4 FOCUS_A
5 FOCUS_B
6 D_3V
TO CF-45/46 BOARD CN401
(SEE PAGE 4-63)
CHASIS GND
16

PD-74 (LCD DRIVER) SCHEMATIC DIAGRAM • See page 4-113 for PD-74 BOARD printed wiring board.
— Ref. No. PD-74 Board; 8,000 Series —


1
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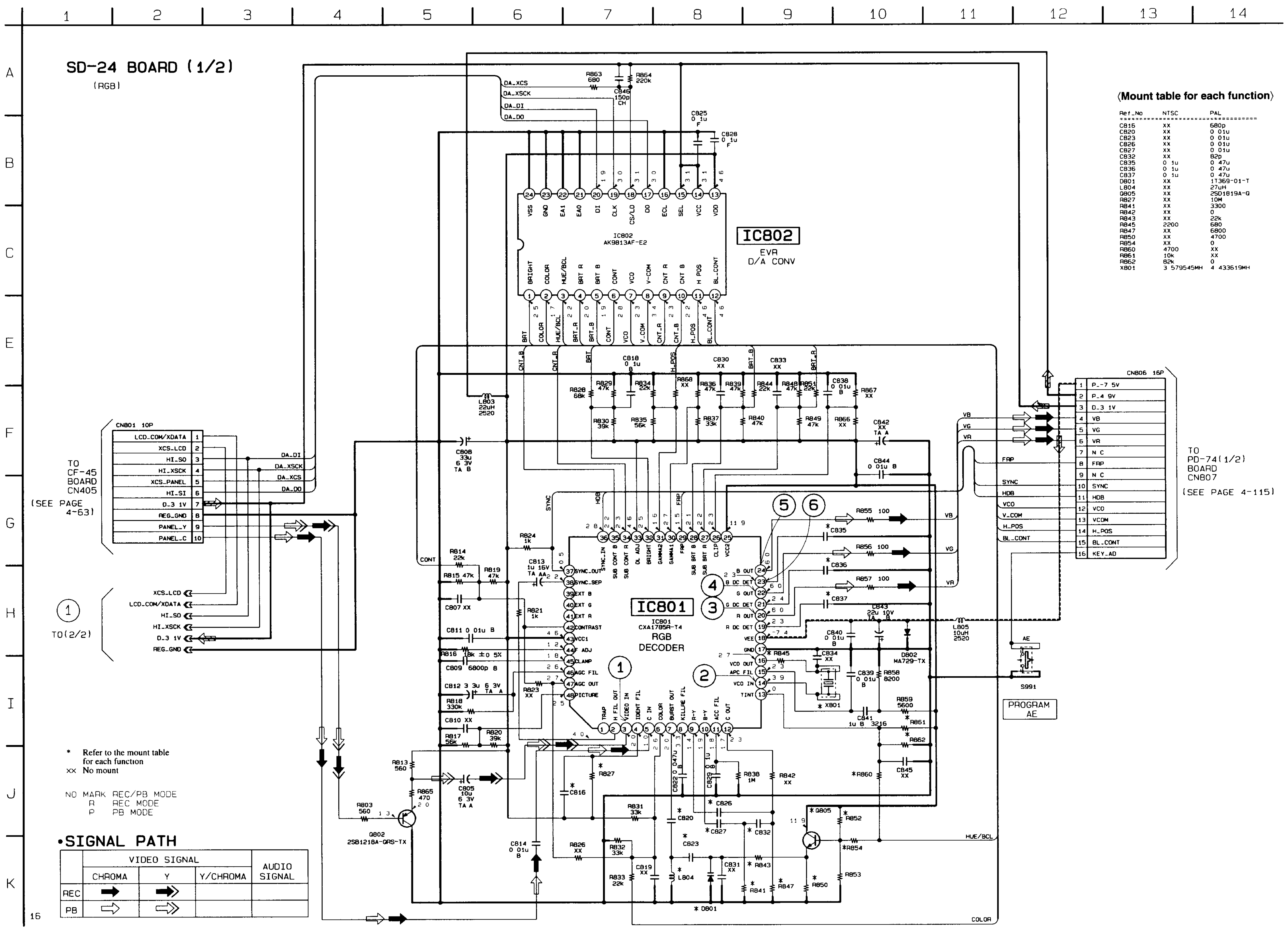
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
PD-74 BOARD (2/2) (DD)
TALLY_VCC
PANEL_UNREG
UNREG_GND
PANEL_4 9V
② TO(2/2)
REG_GND
IC951
SWITCHING REG
Vfeedback=-7 53V
IC951 MB3785APFV-G-BND-ER
Q955 FP102-TL SWITCHING
L951 4 7uH 3225
L953 22uH
L954 150uH
T952
Q957 FP216-TL
HV OSC
UNREG_GND
D953 MA111-TX
Q958 2SB1218A-QRS-TX
LED DRIVE
D955 MA111-TX
D954 PG1101H-TR
(STARTER)
LND961 SHIELD_GND
LND962 SHIELD_GND
LND963 SHIELD_GND
LND964 SHIELD_GND
XX NO MOUNT
NO MARK REC/PB MODE
R REC MODE
P PB MODE
CN951 10P
10 BL_HIGH
9 N C
8 N C
7 N C
6 N C
5 N C
4 N C
3 BL_LOW
2 N C
1 LED_GND
BACK LIGHT
L952 10uH 3225
Q956 2SB1122-ST-TD
T951
D951 FC806-TL
D952 DAN202UT106
P_11V
P_-18V
P_-7 5V
② TO(1/2)
BL_ON
② TO(1/2)
BL_CONT
BL_CONT SIGNAL
0V=NORMAL (3 9V)
4 6V=BRIGHT(5 5V)
Q952 UN5213-TX
SW
16

Note.	Note.
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety Replace only with part number specified	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité Ne les remplacer que par une piece portant le numéro spécifié

SD-24 (RGB) SCHEMATIC DIAGRAM

— Ref No SD-24 Board; 8,000 Series —

• See page 4-127 for SD-24 BOARD printed wiring board.


1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J
K
SD-24 BOARD (1/2)
(RGB)
IC802
AK8813AF-E2
IC802
EVR
D/A CONV
VSS
GND
EA1
EA0
DI
CLK
CS/LD
DO
ECL
SEL
VCC
VDD
BRIGHT
COLOR
HUE/BCL
BRT R
BRT B
CONT
VCO
V-COM
CNT R
CNT B
H POS
BL_CONT
DA_XCS
DA_XSCK
DA_DI
DA_DO
R863 680
R864 220k
C846 150p CH
C825 0 1u F
C826 0 1u F
CN801 10P
LCD_COM/XDATA
XCS_LCD
HI_SO
HI_XSCK
XCS_PANEL
HI_SI
D_3 1V
REG_GND
PANEL_Y
PANEL_C
TO CF-45 BOARD CN405
(SEE PAGE 4-63)
XCS_LCD
LCD_COM/XDATA
HI_SO
HI_XSCK
D_3 1V
REG_GND
TO(2/2)
L803 22uH 2520
C808 33u 6 3V TA B
IC801
IC801
CXA1785A-T4
RGB
DECODER
SYNC_OUT
SYNC_SEP
EXT B
EXT G
EXT R
CONTRAST
VCC1
CLAMP
F ADJ
AGC FIL
AGC OUT
PICTURE
TRAP
H FIL OUT
VIDEO IN
IDENT FIL
C IN
COLOR
BURST OUT
KILLER FIL
R-Y
B-Y
ACC FIL
C OUT
B OUT
B DC DET
G OUT
G DC DET
R OUT
R DC DET
VEE
GND
VCO OUT
APC FIL
VCO IN
TINT
SYNC_IN
SUB CONT B
SUB CONT R
DL ADJ
BRIGHT
GAMMA2
GAMMA1
FRP
SUB BRT B
SUB BRT R
CLIP
VCC2
CN806 16P
P_-7 5V
P_4 9V
D_3 1V
VB
VG
VR
N C
FRP
N C
SYNC
HDB
VCO
VCOM
H_POS
BL_CONT
KEY_AD
TO PD-74(1/2) BOARD CN807
(SEE PAGE 4-115)
R855 100
R856 100
R857 100
C835
C836
C837
C843 22u 10V TA A
L805 10uH 2520
D802 MA729-TX
R858 8200
X801
R859 5600
R861
R862
R860
C845 XX
C841 1u B 3216
S991
PROGRAM AE
Q802 2SB1218A-QRS-TX
R865 470
R803 560
R813 560
C805 10u 6 3V TA A
C814 0 01u B
Q805
R852
R854
R853
R850
D801
L804
HUE/BCL
COLOR
CONT
16
* Refer to the mount table for each function
xx No mount
NO MARK REC/PB MODE
R REC MODE
P PB MODE

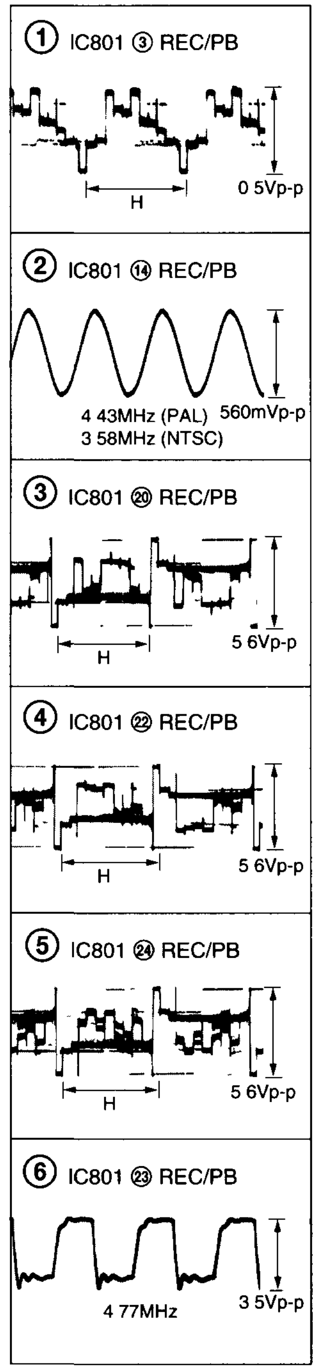
⟨Mount table for each function⟩

Ref_No	NTSC	PAL
C816	XX	680p
C820	XX	0 01u
C823	XX	0 01u
C826	XX	0 01u
C827	XX	0 01u
C832	XX	82p
C835	0 1u	0 47u
C836	0 1u	0 47u
C837	0 1u	0 47u
D801	XX	1T369-01-T
L804	XX	27uH
Q805	XX	2SD1819A-Q
R827	XX	10M
R841	XX	3300
R842	XX	0
R843	XX	22k
R845	2200	680
R847	XX	6800
R850	XX	4700
R854	XX	0
R860	4700	XX
R861	10k	XX
R862	82k	0
X801	3 579545MH	4 433619MH

•SIGNAL PATH

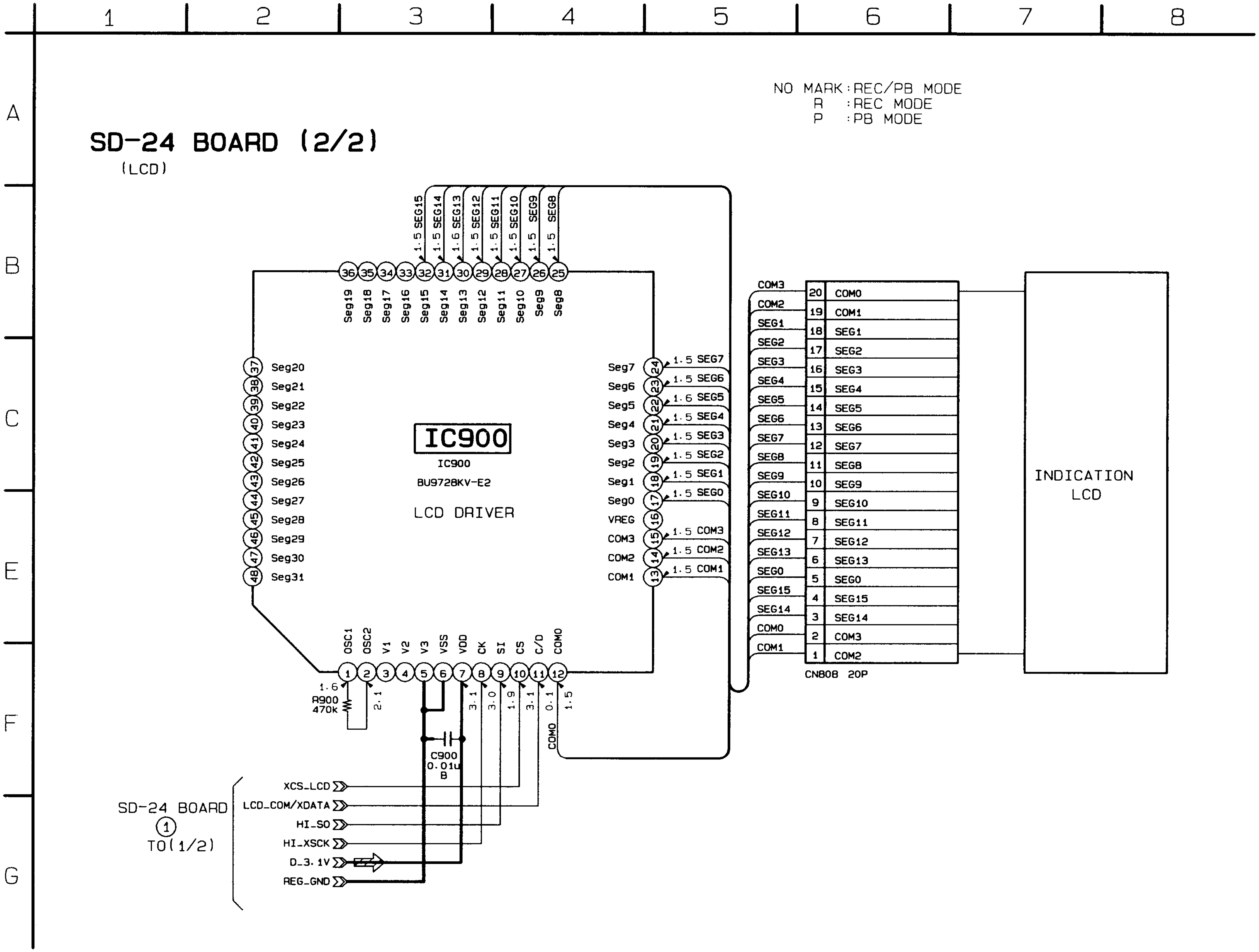
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡➡		
PB	⇨	⇨⇨		

SD-24 BOARD (1/2)



SD-24 (RGB) SCHEMATIC DIAGRAM

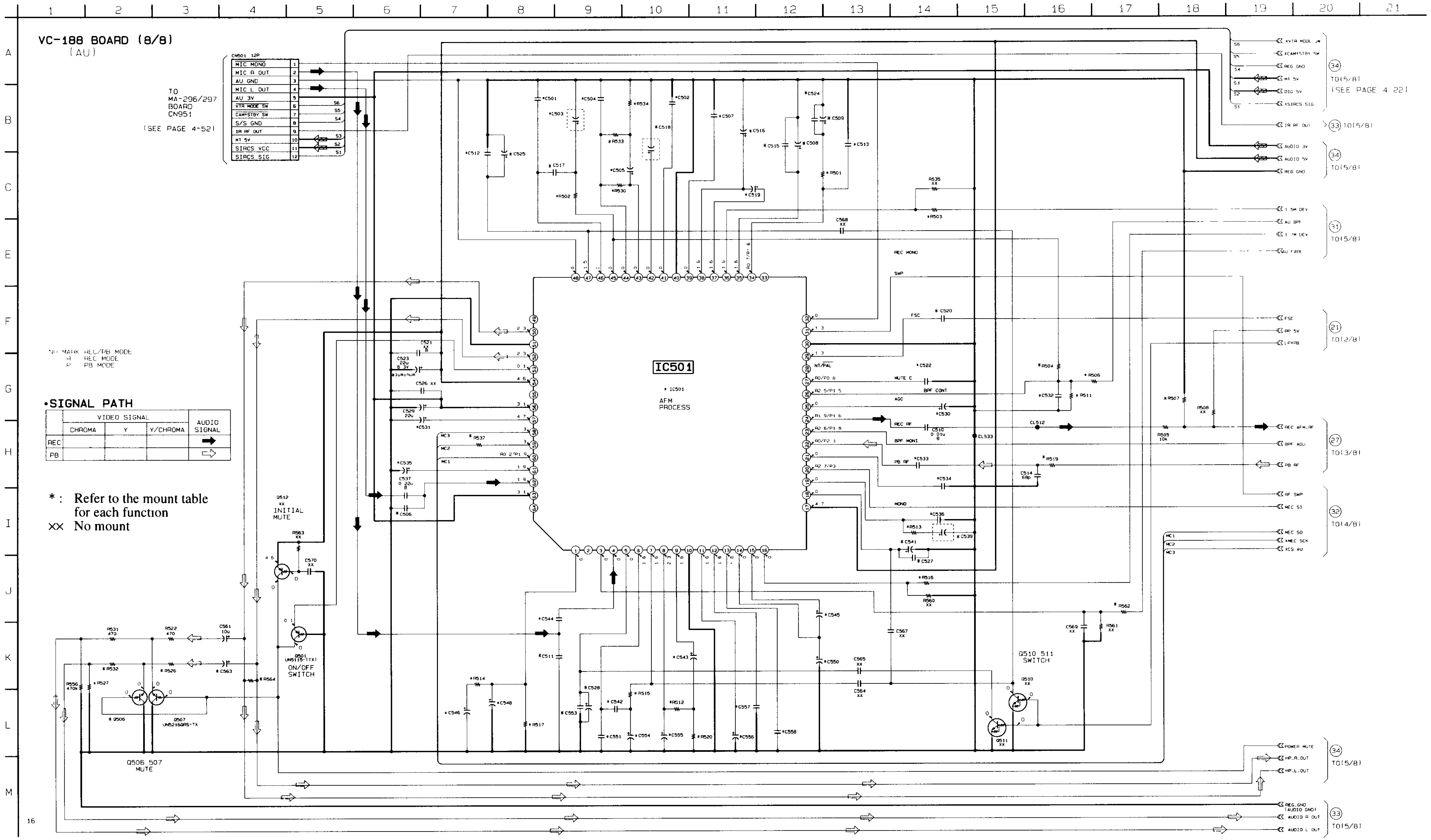
— Ref. No. SD-24 Board; 8,000 Series —


1
2
3
4
5
6
7
8
A
B
C
D
E
F
G
NO MARK : REC/PB MODE
R : REC MODE
P : PB MODE
SD-24 BOARD (2/2)
(LCD)
IC900
IC900
BU9728KV-E2
LCD DRIVER
Seg19
Seg18
Seg17
Seg16
Seg15
Seg14
Seg13
Seg12
Seg11
Seg10
Seg9
Seg8
1.5 SEG15
1.5 SEG14
1.6 SEG13
1.5 SEG12
1.5 SEG11
1.5 SEG10
1.5 SEG9
1.5 SEG8
Seg20
Seg21
Seg22
Seg23
Seg24
Seg25
Seg26
Seg27
Seg28
Seg29
Seg30
Seg31
Seg7
Seg6
Seg5
Seg4
Seg3
Seg2
Seg1
Seg0
VREG
COM3
COM2
COM1
1.5 SEG7
1.5 SEG6
1.6 SEG5
1.5 SEG4
1.5 SEG3
1.5 SEG2
1.5 SEG1
1.5 SEG0
1.5 COM3
1.5 COM2
1.5 COM1
OSC1
OSC2
V1
V2
V3
VSS
VDD
CK
SI
CS
C/D
COM0
1.6
R900
470k
2.1
3.1
3.0
1.9
3.1
0.1
1.5
COM0
C900
0.01u
B
SD-24 BOARD
①
TO(1/2)
XCS_LCD
LCD_COM/XDATA
HI_SO
HI_XSCK
D_3.1V
REG_GND
COM3
COM2
SEG1
SEG2
SEG3
SEG4
SEG5
SEG6
SEG7
SEG8
SEG9
SEG10
SEG11
SEG12
SEG13
SEG0
SEG15
SEG14
COM0
COM1
20 COM0
19 COM1
18 SEG1
17 SEG2
16 SEG3
15 SEG4
14 SEG5
13 SEG6
12 SEG7
11 SEG8
10 SEG9
9 SEG10
8 SEG11
7 SEG12
6 SEG13
5 SEG0
4 SEG15
3 SEG14
2 COM3
1 COM2
CN808 20P
INDICATION
LCD

VC-188 (AUDIO) SCHEMATIC DIAGRAM

— Ref No VC-188 Board, 1,000 Series —

- See page 4-5 for VC-188 BOARD printed wiring board.


VC-188 BOARD (8/8)
(AU)
TO MA-296/297 BOARD CN951
(SEE PAGE 4-52)
CN501 12P
MIC MONO
MIC R OUT
AU GND
MIC L OUT
AU 3V
VTR MODE SW
CAM+STBY SW
S/S GND
IR RF OUT
MT 5V
SIRCS VCC
SIRCS SIG
IC501
AFM PROCESS
Q512 XX INITIAL MUTE
Q501 ON/OFF SWITCH
Q506 507 MUTE
Q510 511 SWITCH
XVTR MODE SW
XCAM+STBY SW
REG GND
MT 5V
DIG 5V
XSIRCS SIG
(34) TO(5/8) (SEE PAGE 4-22)
IR RF OUT
(33) TO(5/8)
AUDIO 3V
AUDIO 5V
REG GND
(34) TO(5/8)
1.5M DEV
AU BPF
1.7M DEV
AU FADE
(31) TO(5/8)
FSC
RP 5V
LP*PB
(21) TO(2/8)
REC AFM_RF
BPF ADJ
PB RF
(27) TO(3/8)
RF SWP
MEC SI
MEC SO
XMEC SCK
XCS AU
(32) TO(4/8)
POWER MUTE
HP_R_OUT
HP_L_OUT
(34) TO(5/8)
REG_GND (AUDIO GND)
AUDIO R OUT
AUDIO L OUT
(33) TO(5/8)

NO MARK : REC/PB MODE
R : REC MODE
P : PB MODE

•SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC				➡
PB				⇨

* : Refer to the mount table for each function
XX No mount

⟨Mount table for each function⟩

Note
ST STEREO
MO MONO
P IC501 of P Type
S IC501 of S Type
SA IC501 of SA Type

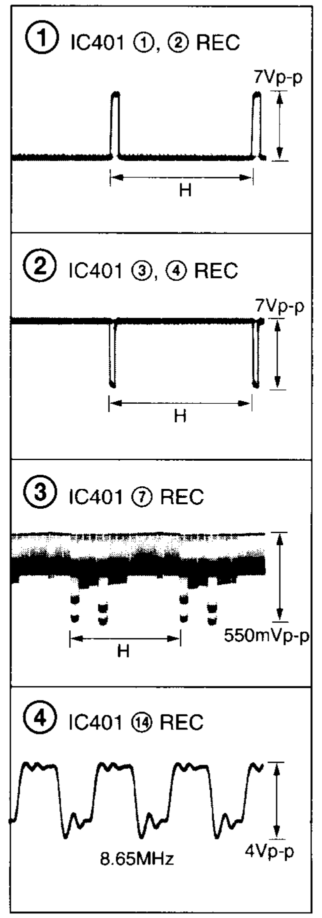
Ref_No	P/ST NT	P/MO NT	S/ST NT	S/MO NT	SA/ST NT	SA/MO NT
C501	XX	XX	0.001u	XX	0.01u	XX
C502	0.01u	0.01u	0.22u	XX	0.01u	XX
C503	XX	XX	XX	XX	4.7u	XX
C504	XX	XX	0.001u	0.001u	0.47u	XX
C505	47u	XX	4.7u	47u	10u	XX
C507	0.47u	XX	1u	XX	6800p	XX
C508	2.2u	3.3u	XX	XX	XX	XX
C509	22u	22u	0.47u	0.47u	XX	XX
C512	4700p	4700p	XX	XX	XX	XX
C513	XX	XX	0.22u	0.22u	0.1u	0.1u
C515	XX	XX	XX	220p	2200p	2200p
C516	2.2u	XX	22u	XX	XX	XX
C517	0.47u	XX	XX	XX	XX	XX
C518	2.2u	0.01u	4.7u	XX	4.7u	XX
C519	XX	XX	XX	XX	4.7u	4.7u
C522	0.01u	0.01u	680p	680p	0.022u	0.022u
C524	XX	XX	XX	XX	0.1u	0.1u
C525	XX	XX	XX	XX	22u	10u
C527	XX	XX	680p	XX	2200p	XX
C528	XX	XX	1u	XX	22u	XX
C530	10u	10u	10u	XX	XX	XX
C531	47u	33u	XX	47u	33u	33u
C533	0.01u	0.01u	0.01u	0.01u	0	0
C534	0.01u	XX	3300p	3300p	0.47u	XX
C535	33u	33u	22u	10u	33u	22u
C536	XX	XX	0.22u	XX	0.1u	XX
C539	22u	XX	0.47u	XX	0.1u	XX
C541	2.2u	XX	XX	10u	XX	XX
C542	0.47u	0.47u	XX	XX	XX	XX
C543	47u	47u	1u	4.7u	10u	10u
C544	0.22u	XX	0.22u	XX	0.22u	XX
C545	XX	XX	XX	XX	4.7u	XX
C546	47u	100u	47u	47u	33u	33u
C548	4.7u	22u	4.7u	15u	10u	10u
C550	2.2u	2.2u	22u	22u	XX	XX
C551	XX	XX	47k	47k	0.01u	0.01u
C553	4700p	XX	XX	XX	XX	XX
C554	XX	XX	10u	4.7u	4.7u	4.7u
C555	XX	XX	10u	10u	0.47u	0.47u
C556	2.2u	2.2u	4.7u	4.7u	4.7u	4.7u
C557	0.01u	0.01u	0.22u	0.22u	0.01u	0.01u
C558	0.47u	0.47u	1u	1u	6800p	6800p
C563	10u	XX	10u	XX	10u	XX
IC501	AN2980FH-E	AN3996FHP-	CXA1737R-	CXA2038R	LA7494W-TB	LA7457W-TB
Q506	UN5216QRS-	XX	UN5216QRS-	XX	UN5216QRS-	XX
R501	4700	5600	470k	470k	3.3M	3.3M
R502	1800	XX	XX	XX	0	XX
R503	120k	100k	82k	0	150k	150k
R504	XX	XX	0	XX	XX	XX
R506	120k	220k	82k	82k	82k	180k
R507	6800	6800	6800	8200	6800	6800
R511	15k	22k	XX	XX	XX	680k
R512	0	0	XX	XX	XX	XX
R513	4700	XX	470k	XX	3.3M	XX
R514	10k	22k	10k	6800	10k	10k
R515	220	4700	0	0	0	0
R516	120k	XX	82k	XX	120k	XX
R517	470k	1M	470k	100k	1M	1M
R520	XX	XX	0	0	0	0
R526	470	XX	470	XX	470	XX
R527	470k	XX	470k	XX	470k	XX
R530	XX	XX	XX	1M	XX	XX
R532	470	XX	470	XX	470	XX
R533	0	XX	XX	XX	XX	XX
R534	XX	XX	0	0	0	XX
R537	4700	0	0	0	0	0
R562	0	0	0	0	0	0
R564	XX	0	XX	0	XX	0
C511	1000p	XX	XX	XX	XX	XX
C506	1000p	XX	XX	XX	XX	XX

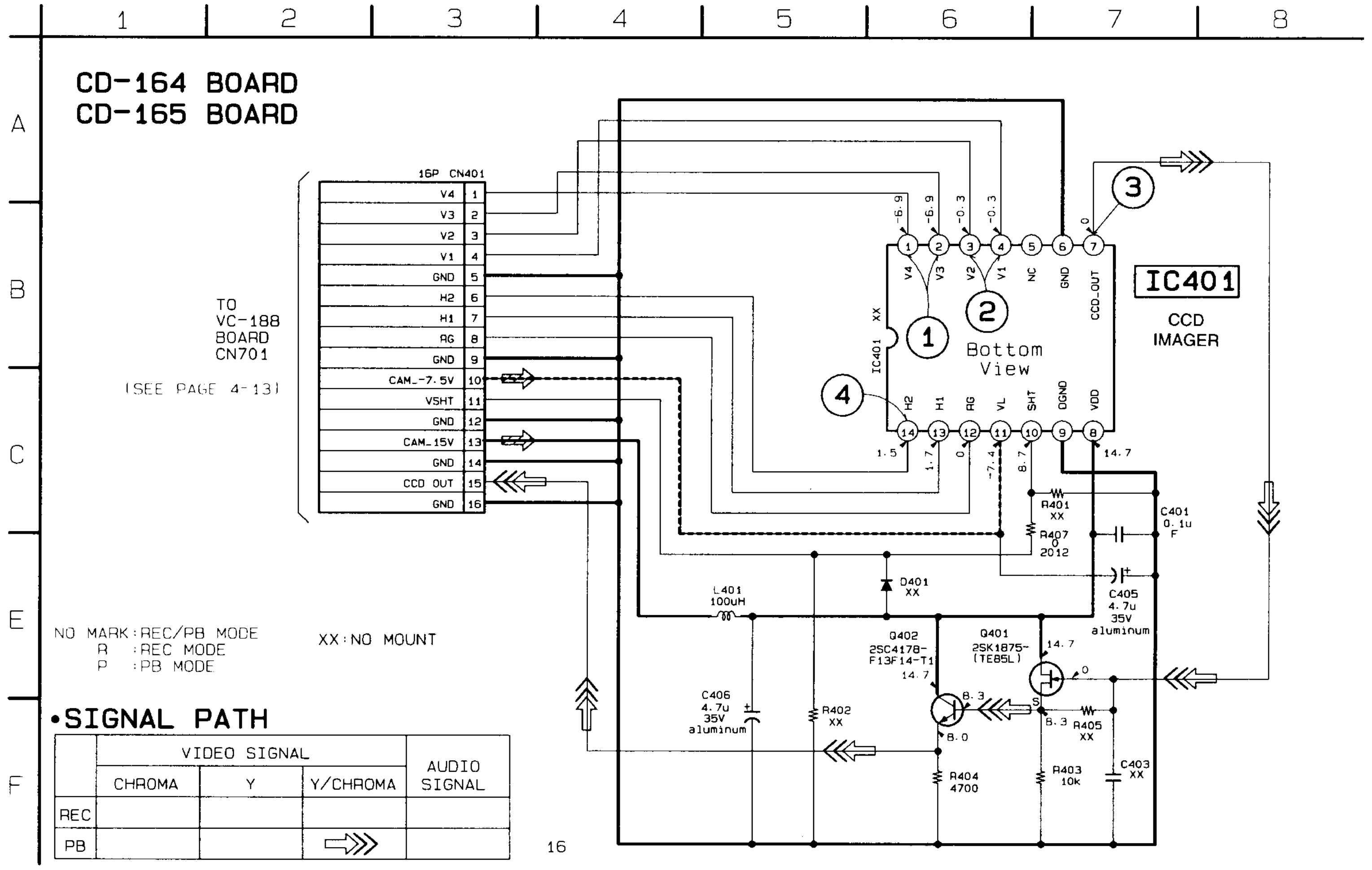
CD-164/165 (CCD IMAGER) PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM

— Ref. No. CD-164/165 Board; 2,000 Series —

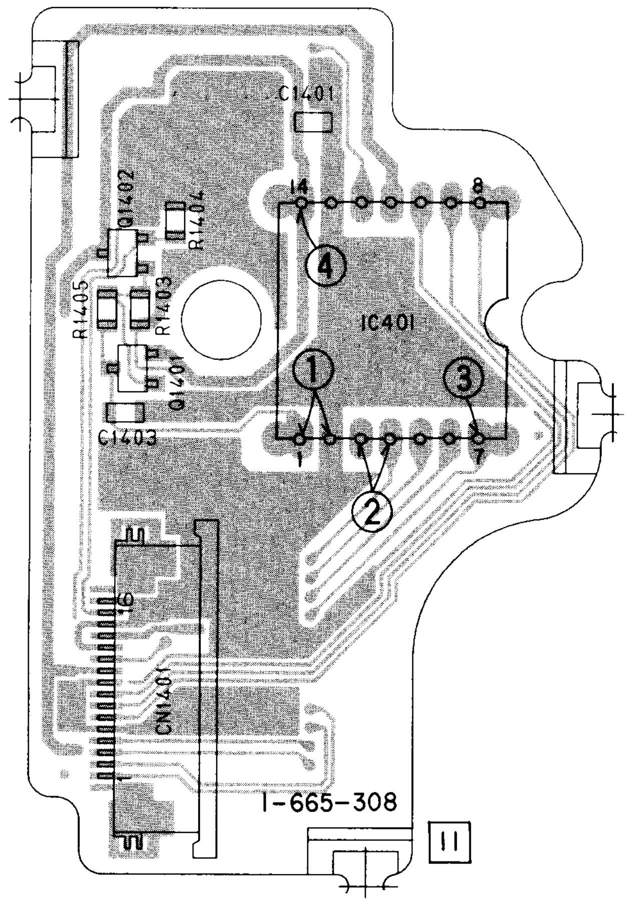
There are few cases that the part printed on this diagram isn't mounted in this model.

CD-164/165 BOARD

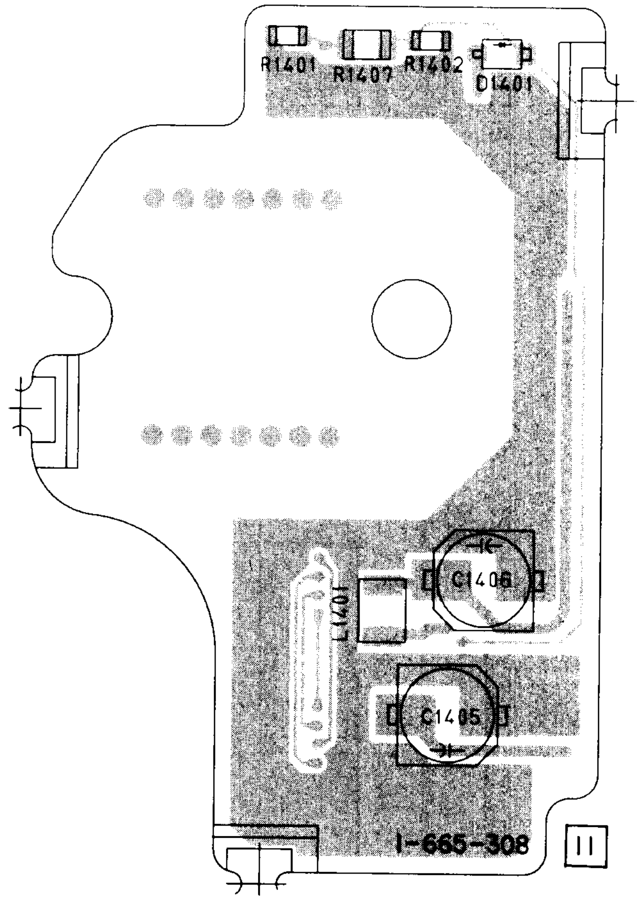



1
2
3
4
5
6
7
8
A
B
C
E
F
CD-164 BOARD
CD-165 BOARD
16P CN401
V4 1
V3 2
V2 3
V1 4
GND 5
H2 6
H1 7
RG 8
GND 9
CAM_-7.5V 10
VSHT 11
GND 12
CAM_15V 13
GND 14
CCD OUT 15
GND 16
TO VC-188 BOARD CN701
(SEE PAGE 4-13)
-6.9
-6.9
-0.3
-0.3
0
1.5
1.7
0
-7.4
8.7
14.7
V4
V3
V2
V1
NC
GND
CCD_OUT
H2
H1
RG
VL
SHT
OGND
VDD
IC401 XX
Bottom View
IC401
CCD IMAGER
R401 XX
R407 0 2012
C401 0.1u F
C405 4.7u 35V aluminum
D401 XX
L401 100uH
Q402 2SC4178-F13F14-T1
Q401 2SK1875-(TE85L)
14.7
8.3
8.0
0
S
8.3
C406 4.7u 35V aluminum
R402 XX
R404 4700
R403 10k
R405 XX
C403 XX
NO MARK : REC/PB MODE
R : REC MODE
P : PB MODE
XX : NO MOUNT
•SIGNAL PATH
VIDEO SIGNAL
CHROMA
Y
Y/CHROMA
AUDIO SIGNAL
REC
PB
16

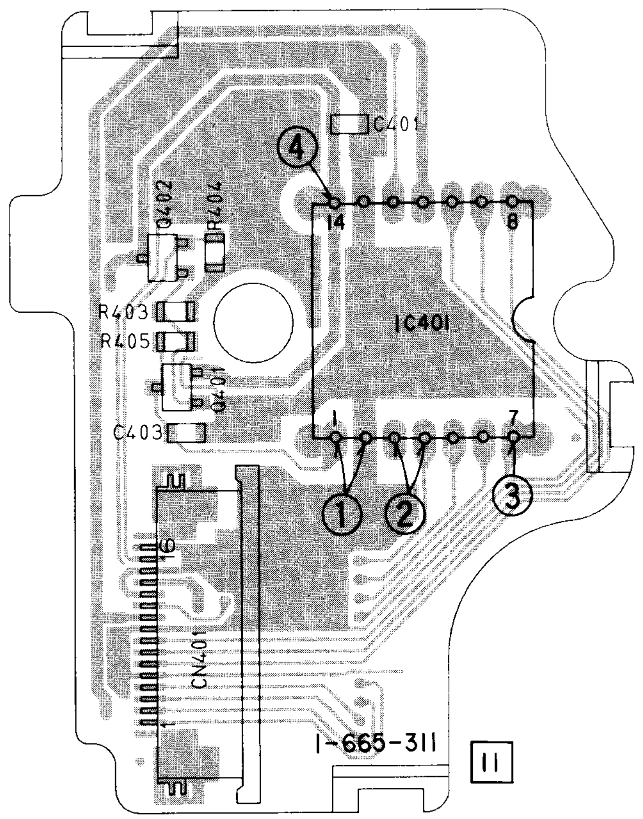
CD-164 BOARD (SIDE A)


C1401
Q1402
R1404
R1405
R1403
Q1401
C1403
④
IC401
14
8
1
7
①
②
③
16
CN1401
1-665-308
11

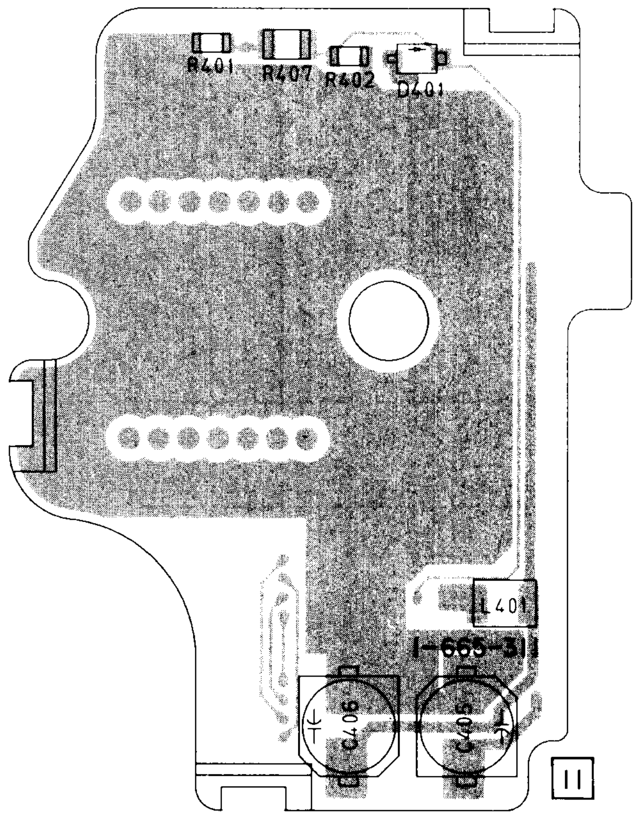
CD-164 BOARD (SIDE B)


R1401
R1407
R1402
D1401
L1401
C1406
C1405
1-665-308
11

CD-165 BOARD (SIDE A)


C401
④
14
8
Q402
R404
IC401
R403
R405
Q401
C403
1
7
①
②
③
16
CN401
1-665-311
11

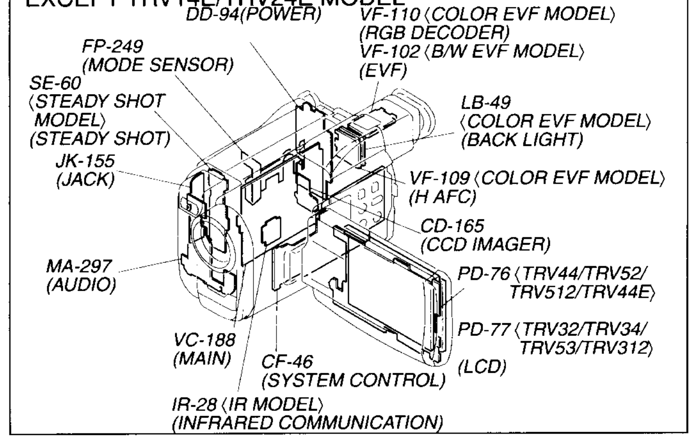
CD-165 BOARD (SIDE B)


R401
R407
R402
D401
L401
1-665-311
C406
C405
11

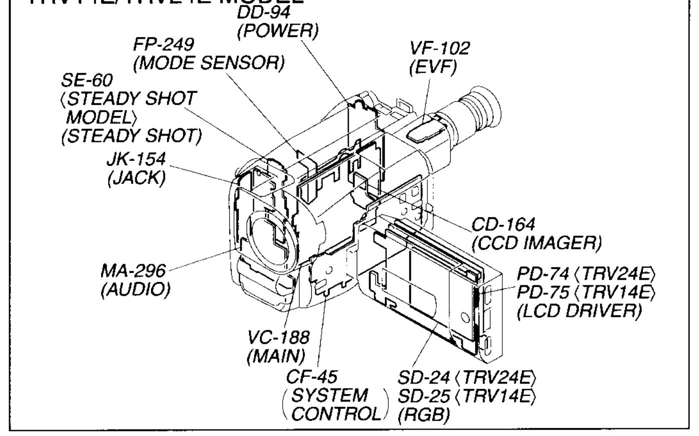
Precautions Upon Replacing CCD Imager

- The CD-164/165 board mounted as a repair part is not equipped with a CCD imager.
  When replacing this board, remove the CCD imager from the old one and mount it onto the new one.
- If the CCD imager has been replaced, carry out all the adjustments for the camera section.
- As the CCD imager may be damaged by static electricity from its structure, handle it carefully like for the MOS IC.
  In addition, ensure that the receiver is not covered with dusts nor exposed to strong light.

EXCEPT TRV14E/TRV24E MODEL


DD-94(POWER)
VF-110 ⟨COLOR EVF MODEL⟩ (RGB DECODER)
VF-102 ⟨B/W EVF MODEL⟩ (EVF)
FP-249 (MODE SENSOR)
SE-60 ⟨STEADY SHOT MODEL⟩ (STEADY SHOT)
JK-155 (JACK)
LB-49 ⟨COLOR EVF MODEL⟩ (BACK LIGHT)
VF-109 ⟨COLOR EVF MODEL⟩ (H AFC)
CD-165 (CCD IMAGER)
MA-297 (AUDIO)
PD-76 ⟨TRV44/TRV52/TRV512/TRV44E⟩
PD-77 ⟨TRV32/TRV34/TRV53/TRV312⟩
(LCD)
VC-188 (MAIN)
CF-46 (SYSTEM CONTROL)
IR-28 ⟨IR MODEL⟩ (INFRARED COMMUNICATION)

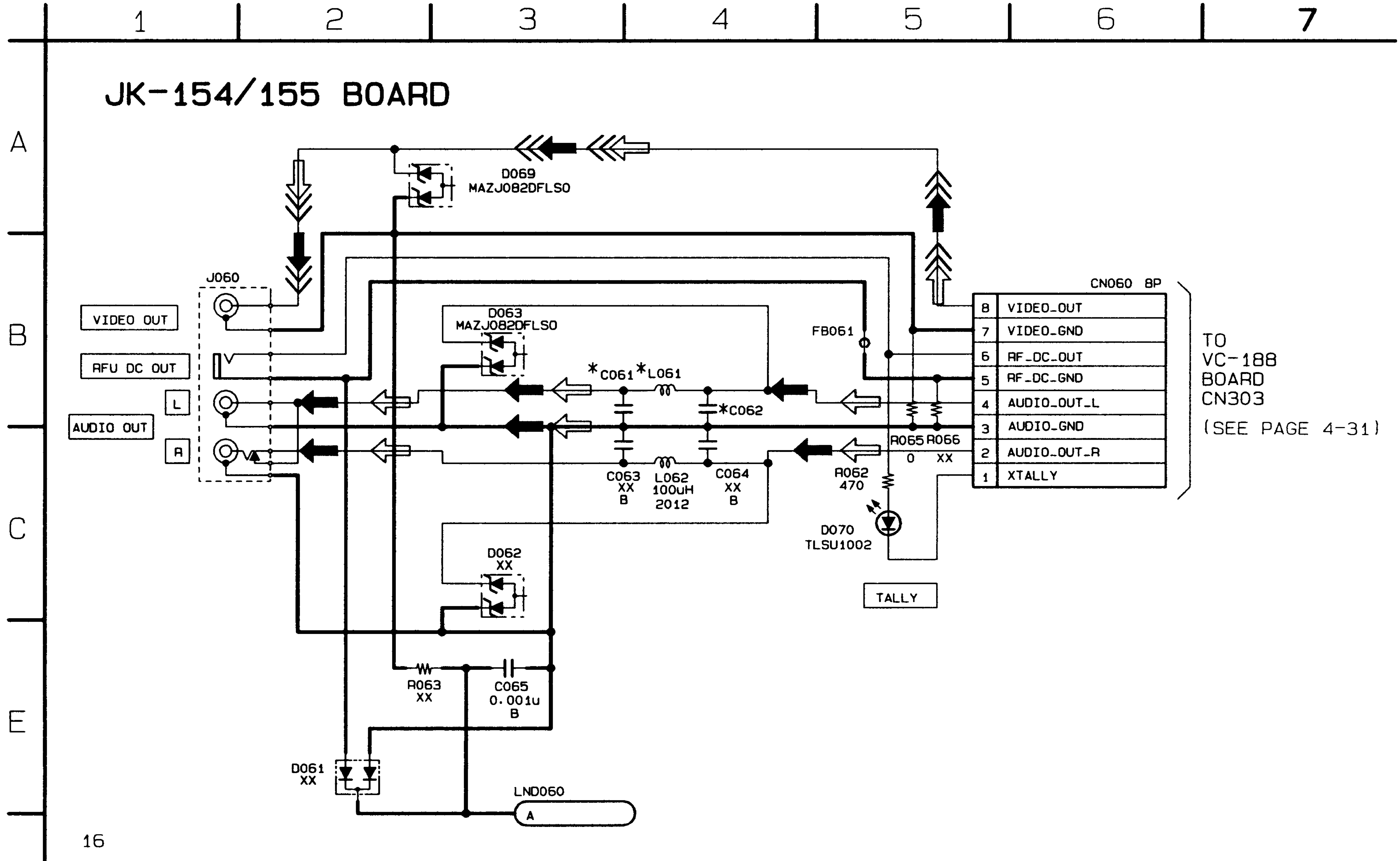
TRV14E/TRV24E MODEL


DD-94 (POWER)
FP-249 (MODE SENSOR)
VF-102 (EVF)
SE-60 ⟨STEADY SHOT MODEL⟩ (STEADY SHOT)
JK-154 (JACK)
CD-164 (CCD IMAGER)
MA-296 (AUDIO)
PD-74 ⟨TRV24E⟩
PD-75 ⟨TRV14E⟩
(LCD DRIVER)
VC-188 (MAIN)
CF-45 (SYSTEM CONTROL)
SD-24 ⟨TRV24E⟩
SD-25 ⟨TRV14E⟩
(RGB)

JK-154/155 (JACK) PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM

— Ref. No. JK-154/155 Board; 2,000 Series —

There are few cases that the part printed on this diagram isn't mounted in this model.


1
2
3
4
5
6
7
A
B
C
D
E
F
JK-154/155 BOARD
D069
MAZJ082DFLS0
J060
VIDEO OUT
RFU DC OUT
L
AUDIO OUT
R
D063
MAZJ082DFLS0
*C061
*L061
*C062
FB061
C063
XX
B
L062
100uH
2012
C064
XX
B
R055 R066
0 XX
R062
470
D070
TLSU1002
TALLY
D062
XX
R063
XX
C065
0.001u
B
D061
XX
LND060
A
CN060 8P
8 VIDEO_OUT
7 VIDEO_GND
6 RF_DC_OUT
5 RF_DC_GND
4 AUDIO_OUT_L
3 AUDIO_GND
2 AUDIO_OUT_R
1 XTALLY
TO VC-188 BOARD CN303
(SEE PAGE 4-31)
16

*: Refer to the mount table for each function.
xx : No mount

NO MARK : REC/PB MODE
R : REC MODE
P : PB MODE

•SIGNAL PATH

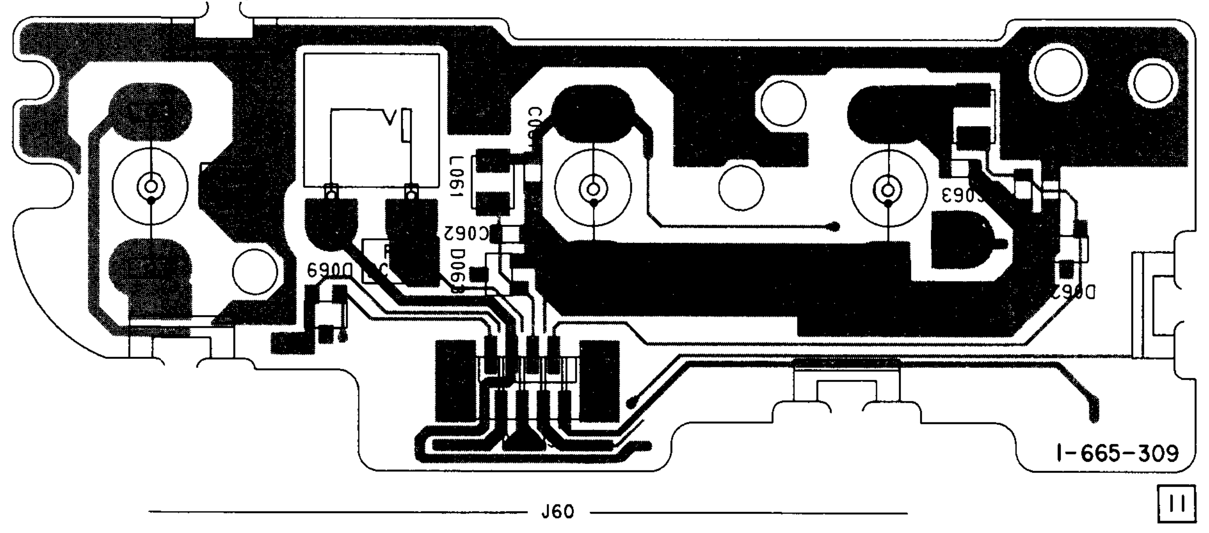
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC			➡》》	➡
PB			⇨》》	⇨

⟨Mount table for each function⟩

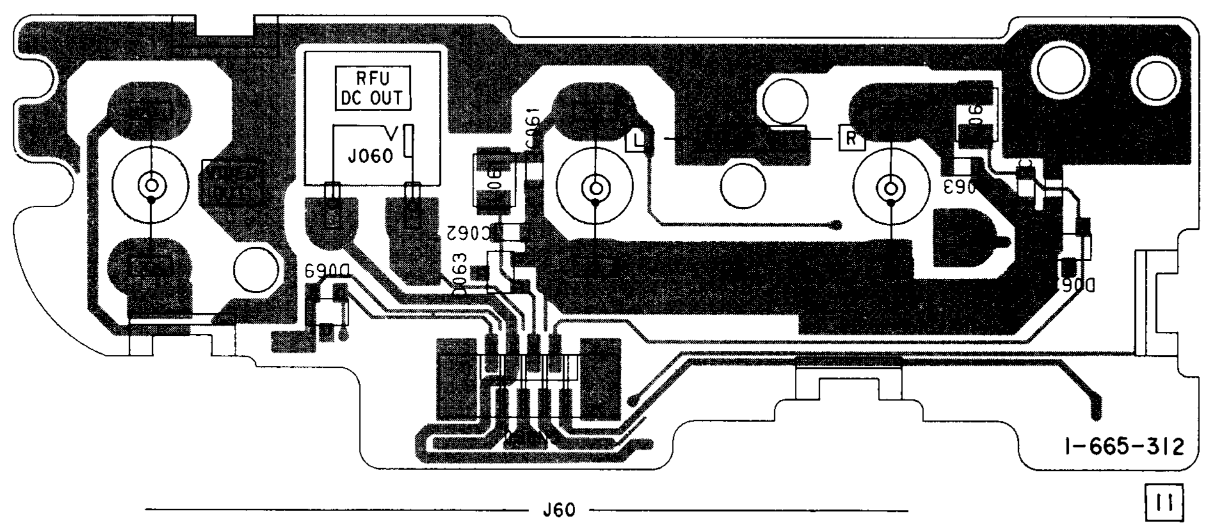
CE : AEP model
CE-N : EXCEPT model
ST : STEREO
MONO : MONO

Ref_No	CE-N MONO	CE-N ST	CE MONO	CE ST
C061	XX	XX	0.001u	0.001u
C062	XX	XX	0.001u	0.001u
L062	XX	0	XX	100uH

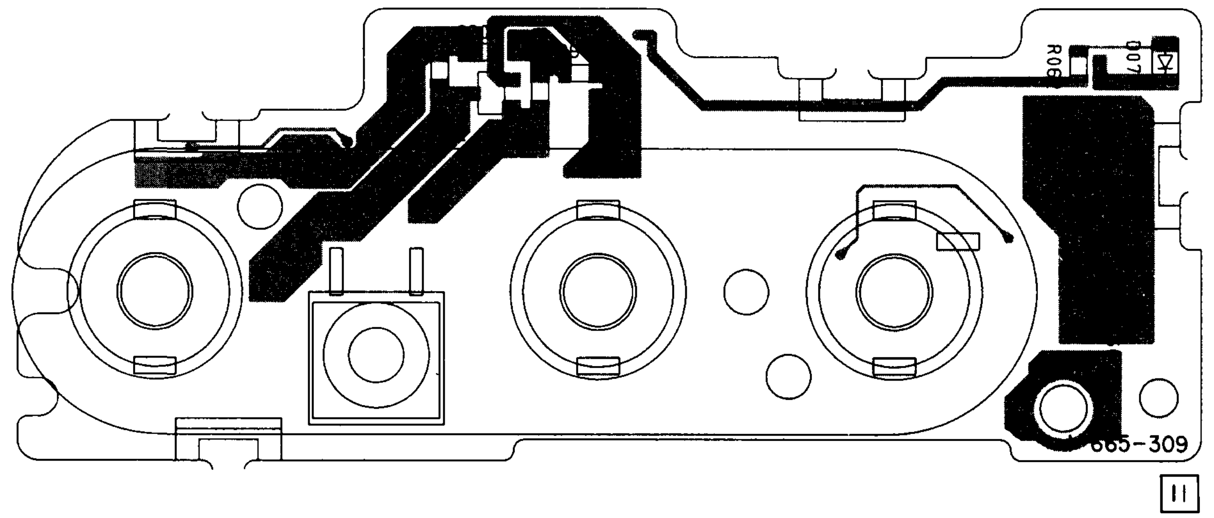
JK-154 BOARD (SIDE A)


1-665-309
J60
11

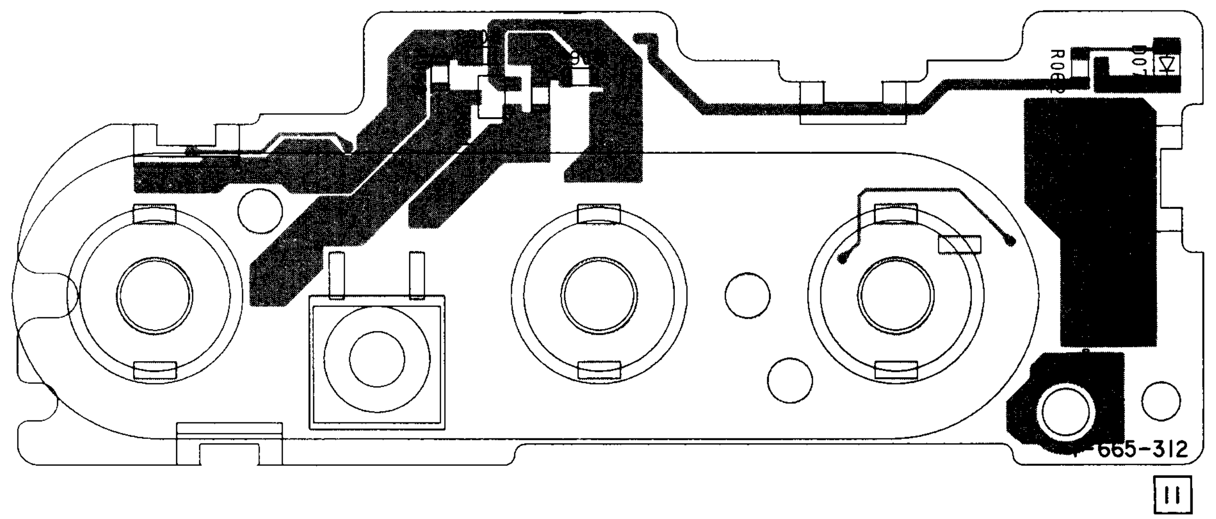
JK-155 BOARD (SIDE A)


RFU DC OUT
J060
1-665-312
J60
11

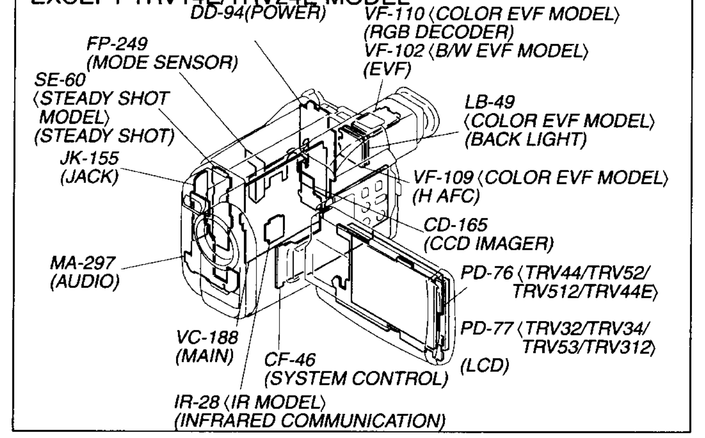
JK-154 BOARD (SIDE B)



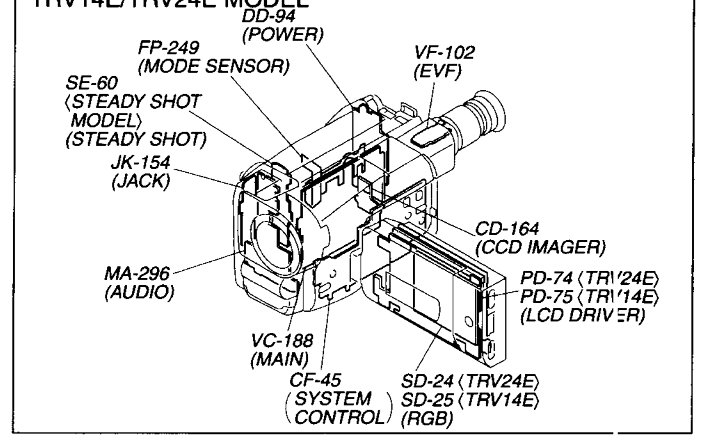
JK-155 BOARD (SIDE B)



EXCEPT TRV14E/TRV24E MODEL


DD-94(POWER)
VF-110 ⟨COLOR EVF MODEL⟩ (RGB DECODER)
VF-102 ⟨B/W EVF MODEL⟩ (EVF)
FP-249 (MODE SENSOR)
SE-60 ⟨STEADY SHOT MODEL⟩ (STEADY SHOT)
LB-49 ⟨COLOR EVF MODEL⟩ (BACK LIGHT)
JK-155 (JACK)
VF-109 ⟨COLOR EVF MODEL⟩ (H AFC)
CD-165 (CCD IMAGER)
MA-297 (AUDIO)
PD-76 ⟨TRV44/TRV52/TRV512/TRV44E⟩
PD-77 ⟨TRV32/TRV34/TRV53/TRV312⟩
(LCD)
VC-188 (MAIN)
CF-46 (SYSTEM CONTROL)
IR-28 ⟨IR MODEL⟩ (INFRARED COMMUNICATION)

TRV14E/TRV24E MODEL


DD-94 (POWER)
FP-249 (MODE SENSOR)
VF-102 (EVF)
SE-60 ⟨STEADY SHOT MODEL⟩ (STEADY SHOT)
JK-154 (JACK)
CD-164 (CCD IMAGER)
MA-296 (AUDIO)
PD-74 ⟨TRV24E⟩
PD-75 ⟨TRV14E⟩
(LCD DRIVER)
VC-188 (MAIN)
CF-45 (SYSTEM CONTROL)
SD-24 ⟨TRV24E⟩
SD-25 ⟨TRV14E⟩
(RGB)

MA-296/297 (AUDIO) PRINTED WIRING BOARD

— Ref No MA-296/297 Board; 2,000 Series —

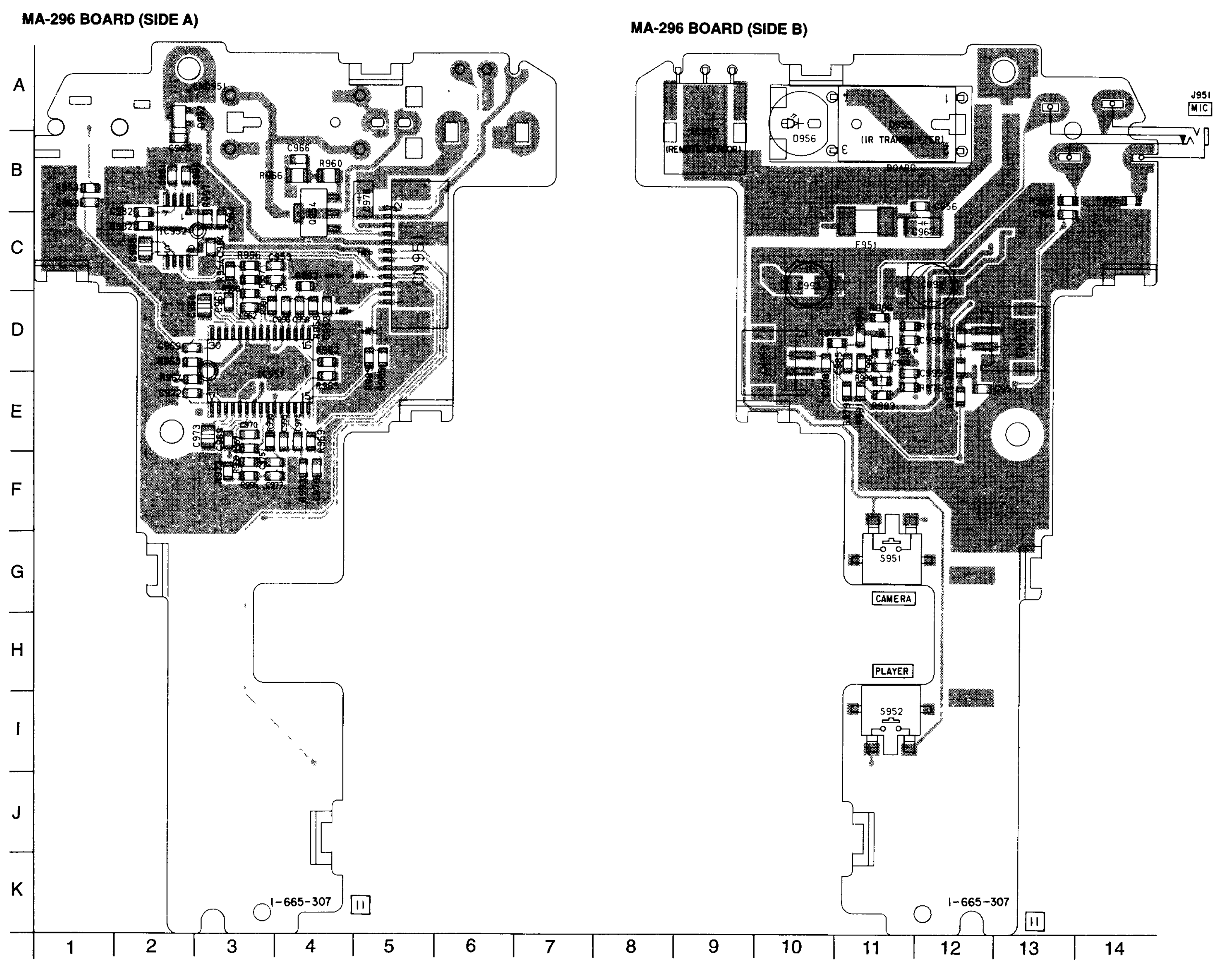
There are few cases that the part printed on this diagram isn't mounted in this model

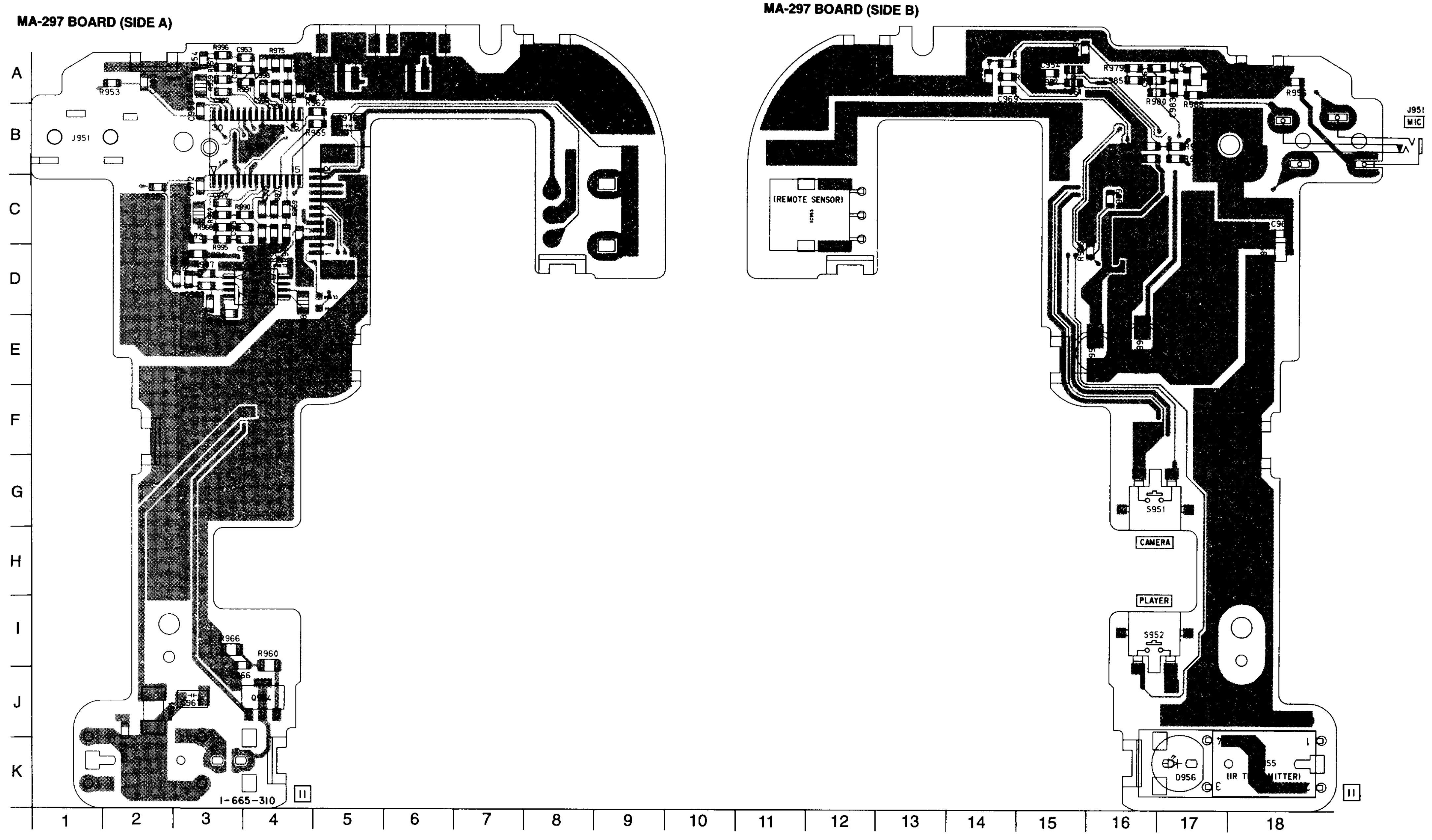
MA-296 BOARD

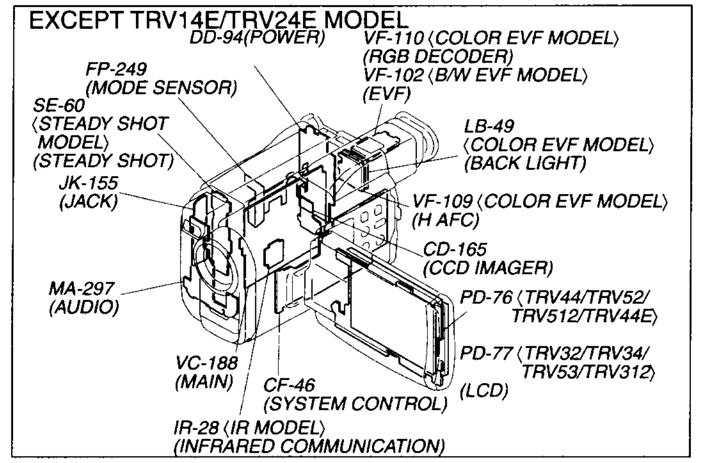
C955	C-4
C962	D-3
C964	B-13
C978	D-10
C980	B-2
C982	C-2
C983	D-11
C984	C-3
C985	C-10
C986	D-11
C988	C-2
C990	C-12
C991	D-11
C993	C-10
CN951	C-5
CN953	E-10
D952	A-3
IC952	C-2
IC953	A-9
J951	A-14
Q951	D-11
Q954	B-4
R953	B-1
R955	B-13
R956	B-14
R978	D-11
R979	E-11
R980	D-11
R981	E-11
R982	C-2
R983	E-11
R997	C-3
S951	G-11
S952	I-11

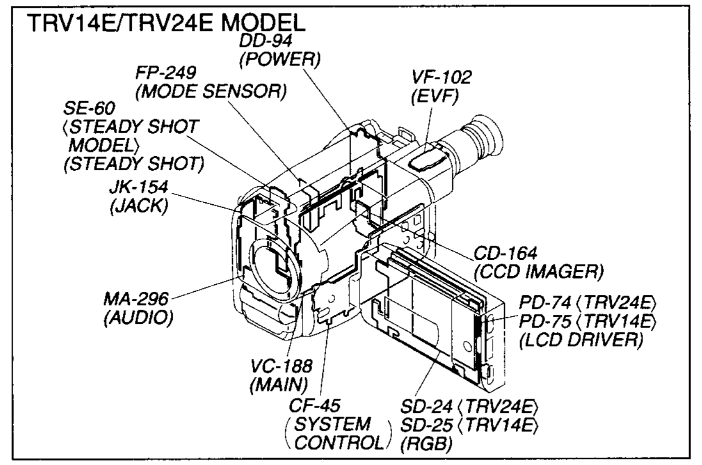
MA-297 BOARD

C953	A-4	IC953	C-12
C954	A-15		
C955	A-4	J951	B-1
C956	K-2		
C957	B-16	Q951	A-17
C958	A-4	Q954	J-4
C959	B-3		
C960	A-3	R953	A-2
C961	A-15	R954	A-3
C962	B-3	R955	C-3
C963	A-2	R956	A-18
C964	D-3	R957	A-3
C966	G-3	R958	A-4
C967	G-3	R959	A-3
C969	A-15	R960	I-4
C970	C-3	R961	A-15
C972	C-3	R962	B-4
C973	C-3	R963	B-17
C974	C-4	R964	B-17
C975	C-3	R965	B-4
C977	C-3	R966	I-3
C978	A-15	R967	C-3
C980	E-3	R968	C-3
C982	D-3	R969	C-4
C983	A-17	R970	A-15
C984	D-3	R973	C-3
C985	A-16	R975	A-4
C986	A-16	R976	D-4
C988	E-4	R978	A-14
C990	E-16	R979	A-16
C991	A-15	R980	A-16
C993	E-16	R981	A-17
C995	C-4	R982	D-3
C996	A-4	R983	A-17
C998	A-4	R986	A-17
C999	D-4	R989	C-16
		R990	C-4
CN951	C-5	R991	A-4
CN952	A-5	R992	A-4
CN953	A-6	R993	D-4
		R995	D-3
D952	D-17	R996	A-4
D956	K-4	R997	D-3
IC951	B-4	S951	G-17
IC952	D-4	S952	I-17


MA-296 BOARD (SIDE A)
MA-296 BOARD (SIDE B)
A
B
C
D
E
F
G
H
I
J
K
1
2
3
4
5
6
7
8
9
10
11
12
13
14
R966
R960
1-665-307
11
J951
MIC
D956
(IR TRANSMITTER)
(REMOTE SENSOR)
S951
CAMERA
PLAYER
S952

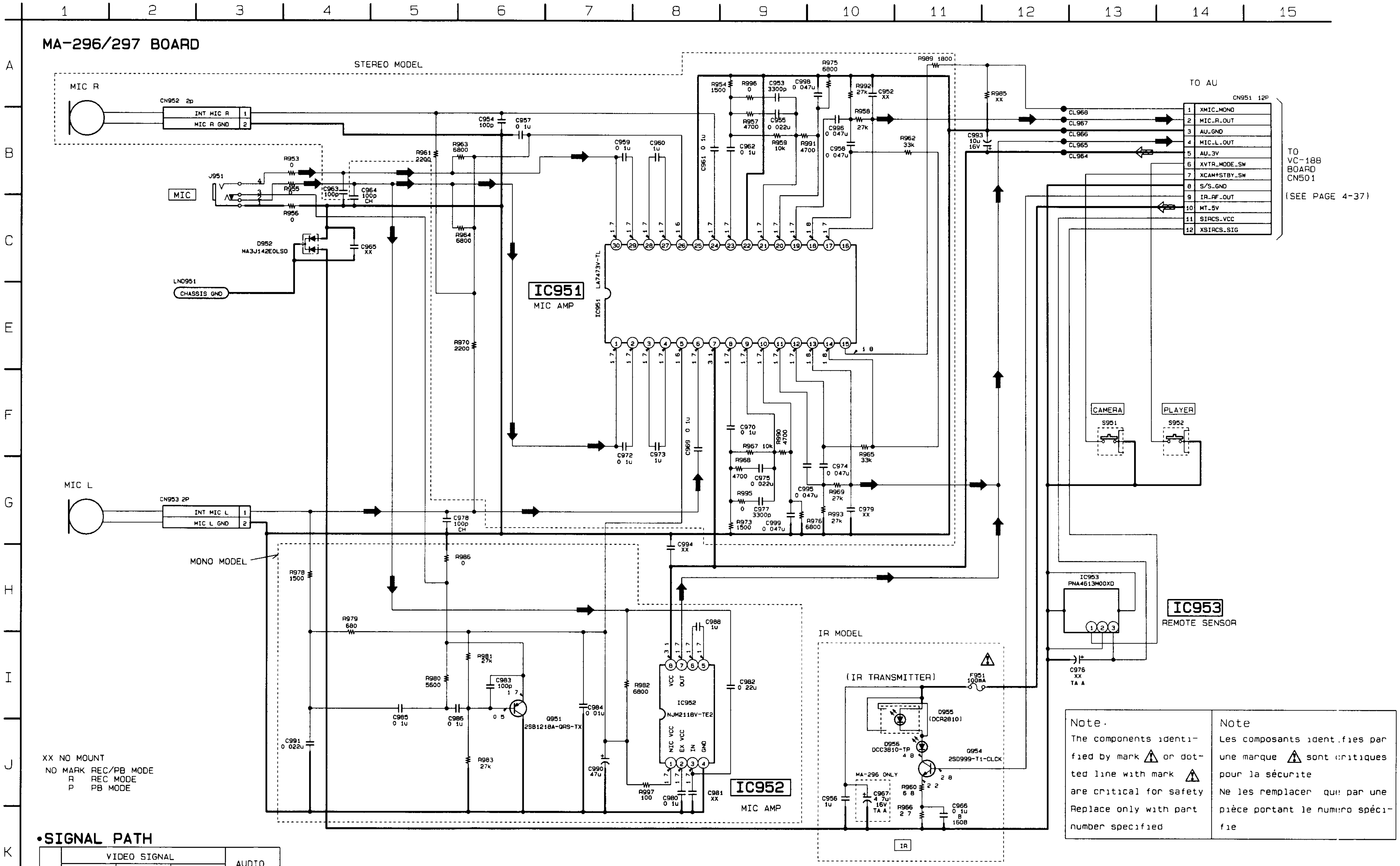

MA-297 BOARD (SIDE A)
MA-297 BOARD (SIDE B)
A
B
C
D
E
F
G
H
I
J
K
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
R953
J951
R966
R960
1-665-310
11
J951
MIC
(REMOTE SENSOR)
S951
CAMERA
PLAYER
S952
D956
(IR TRANSMITTER)


EXCEPT TRV14E/TRV24E MODEL
DD-94(POWER)
VF-110 ⟨COLOR EVF MODEL⟩ (RGB DECODER)
VF-102 ⟨B/W EVF MODEL⟩ (EVF)
FP-249 (MODE SENSOR)
SE-60 ⟨STEADY SHOT MODEL⟩ (STEADY SHOT)
LB-49 ⟨COLOR EVF MODEL⟩ (BACK LIGHT)
JK-155 (JACK)
VF-109 ⟨COLOR EVF MODEL⟩ (H AFC)
CD-165 (CCD IMAGER)
MA-297 (AUDIO)
PD-76 ⟨TRV44/TRV52/ TRV512/TRV44E⟩
PD-77 ⟨TRV32/TRV34/ TRV53/TRV312⟩
(LCD)
VC-188 (MAIN)
CF-46 (SYSTEM CONTROL)
IR-28 ⟨IR MODEL⟩ (INFRARED COMMUNICATION)


TRV14E/TRV24E MODEL
DD-94 (POWER)
FP-249 (MODE SENSOR)
VF-102 (EVF)
SE-60 ⟨STEADY SHOT MODEL⟩ (STEADY SHOT)
JK-154 (JACK)
CD-164 (CCD IMAGER)
MA-296 (AUDIO)
PD-74 ⟨TRV24E⟩
PD-75 ⟨TRV14E⟩
(LCD DRIVER)
VC-188 (MAIN)
CF-45 (SYSTEM CONTROL)
SD-24 ⟨TRV24E⟩
SD-25 ⟨TRV14E⟩
(RGB)

MA-296/297 (AUDIO) SCHEMATIC DIAGRAM

— Ref. No MA-296/297 Board; 2,000 Series —


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
A
B
C
D
E
F
G
H
I
J
K
MA-296/297 BOARD
STEREO MODEL
MIC R
CN952 2P
INT MIC R
MIC R GND
J951
MIC
D952
MA3J142E0LS0
LND951
CHASSIS GND
R953 0
R955 0
R956 0
C963 100p
C964 100p CH
C965 XX
R961 2200
R963 6800
R964 6800
R970 2200
C954 100p
C957 0.1u
C959 0.1u
C960 1u
IC951
LA7473V-TL
MIC AMP
R954 1500
R996 0
C953 3300p
C998 0.047u
R975 6800
R992 27k
C952 XX
R957 4700
C955 0.022u
R959 10k
R991 4700
C996 0.047u
R958 27k
C958 0.047u
R962 33k
C961 0.1u
C962 0.1u
R989 1800
R985 XX
C993 10u 16V
CL968
CL967
CL966
CL965
CL964
TO AU
CN951 12P
XMIC_MONO
MIC_R_OUT
AU_GND
MIC_L_OUT
AU_3V
XVTR_MODE_SW
XCAM+STBY_SW
S/S_GND
IR_AF_OUT
MT_5V
SIRCS_VCC
XSIRCS_SIG
TO VC-188 BOARD CN501
(SEE PAGE 4-37)
C972 0.1u
C973 1u
C969 0.1u
C970 0.1u
R967 10k
R990 4700
R968 4700
C975 0.022u
R995 0
C977 3300p
R973 1500
C999 0.047u
R976 6800
C995 0.047u
C974 0.047u
R969 27k
R965 33k
R993 27k
C979 XX
CAMERA
S951
PLAYER
S952
MIC L
CN953 2P
INT MIC L
MIC L GND
C978 100p CH
C994 XX
MONO MODEL
R978 1500
R986 0
R979 680
R981 27k
R980 5600
C983 100p
C985 0.1u
C986 0.1u
Q951
2SB1218A-QRS-TX
C984 0.01u
C991 0.022u
R983 27k
C990 47u
R982 6800
C988 1u
IC952
NJM2118V-TE2
VCC
OUT
MIC VCC
EX VCC
IN
GND
C982 0.22u
R997 100
C980 0.1u
C981 XX
IC952
MIC AMP
IR MODEL
(IR TRANSMITTER)
F951 100mA
D955 (DCR2810)
D956 DCC3810-TP
Q954 2SD999-T1-CLCK
MA-296 ONLY
C967 4.7u 16V TA A
C956 1u
R960 6.8
R966 2.7
C966 0.1u B 1608
IR
IC953 PNA4613M00XD
IC953
REMOTE SENSOR
C976 XX TA A

Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety
Replace only with part number specified

Note
Les composants identifiés par une marque ⚠ sont critiques pour la sécurite
Ne les remplacer que par une pièce portant le numéro spécifie

XX NO MOUNT
NO MARK REC/PB MODE
R REC MODE
P PB MODE

•SIGNAL PATH

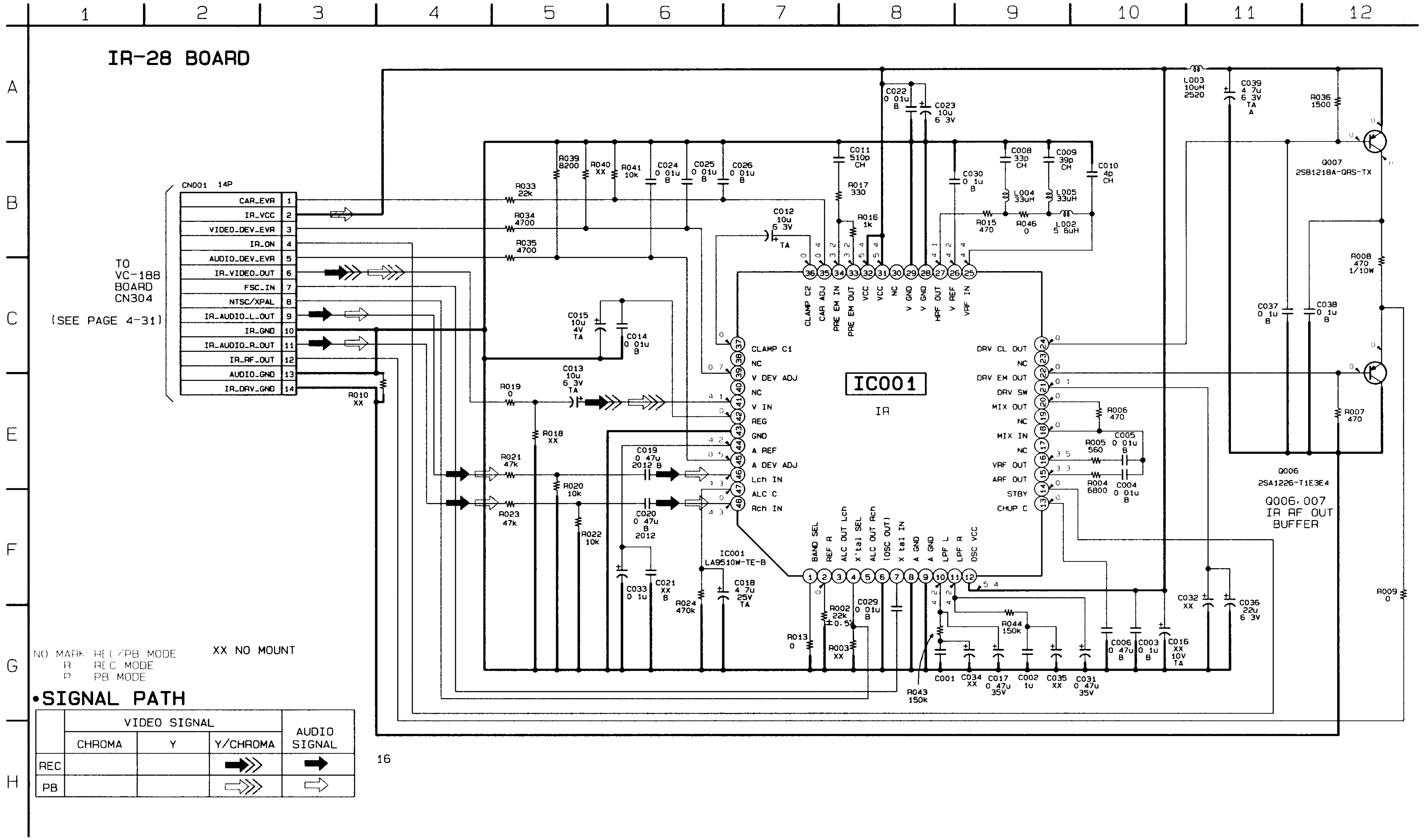
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC				➡
PB				

IR MODEL

IR-28 (INFRARED COMMUNICATION) PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM

— Ref No IR-28 Board; 1,000 Series —

There are few cases that the part printed on this diagram isn't mounted in this model.


IR-28 BOARD
1 2 3 4 5 6 7 8 9 10 11 12
A B C D E F G H
CN001 14P
CAR_EVR 1
IR_VCC 2
VIDEO_DEV_EVR 3
IR_ON 4
AUDIO_DEV_EVR 5
IR_VIDEO_OUT 6
FSC_IN 7
NTSC/XPAL 8
IR_AUDIO_L_OUT 9
IR_GND 10
IR_AUDIO_R_OUT 11
IR_RF_OUT 12
AUDIO_GND 13
IR_DRV_GND 14
TO VC-188 BOARD CN304
(SEE PAGE 4-31)
R010 XX
IC001
IR
IC001 LA9510W-TE-B
CLAMP C1 37
NC 38
V DEV ADJ 39
NC 40
V IN 41
REG 42
GND 43
A REF 44
A DEV ADJ 45
Lch IN 46
ALC C 47
Rch IN 48
36 CLAMP C2
35 CAR ADJ
34 PRE EM IN
33 PRE EM OUT
32 VCC
31 VCC
30 NC
29 V GND
28 V GND
27 HPF OUT
26 V REF
25 VRF IN
24 DRV CL OUT
23 NC
22 DRV EM OUT
21 DRV SW
20 MIX OUT
19 NC
18 MIX IN
17 NC
16 VRF OUT
15 ARF OUT
14 STBY
13 CHUP C
1 BAND SEL
2 REF R
3 ALC OUT Lch
4 X'tal SEL
5 ALC OUT Rch
6 (OSC OUT)
7 X tal IN
8 A GND
9 A GND
10 LPF L
11 LPF R
12 OSC VCC
C022 0 01u B
C023 10u 6 3V
L003 10uH 2520
C039 4 7u 6 3V TA
R036 1500
Q007 2SB1218A-QRS-TX
R039 8200
R040 XX
R041 10k
C024 0 01u B
C025 0 01u B
C026 0 01u B
C011 510p CH
C008 33p CH
C009 39p CH
C010 4p CH
R033 22k
R034 4700
R035 4700
R017 330
C030 0 1u B
L004 33uH
L005 33uH
C012 10u 6 3V TA
R016 1k
R015 470
R046 0
L002 5 6uH
R008 470 1/10W
C015 10u 4V TA
C014 0 01u B
C037 0 1u B
C038 0 1u B
C013 10u 6 3V TA
R019 0
R018 XX
R006 470
R007 470
R021 47k
C019 0 47u 2012 B
R020 10k
C005 0 01u B
R005 560
R004 6800
C004 0 01u B
Q006 2SA1226-T1E3E4
Q006, 007 IR RF OUT BUFFER
R023 47k
C020 0 47u B 2012
R022 10k
C033 0 1u
C021 XX B
R024 470k
C018 4 7u 25V TA
R002 22k ±0.5%
C029 0 01u B
R044 150k
C032 XX
C036 22u 6 3V
R009 0
R013 0
R003 XX
C006 0 47u B
C003 0 1u B
C016 XX 10V TA
C001
C034 XX
C017 0 47u 35V
C002 1u
C035 XX
C031 0 47u 35V
R043 150k
16

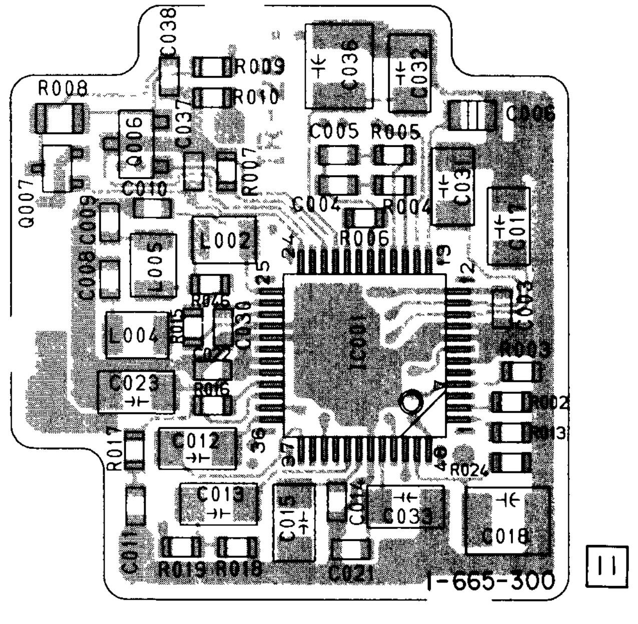
NO MARK REC/PB MODE
R REC MODE
P PB MODE

XX NO MOUNT

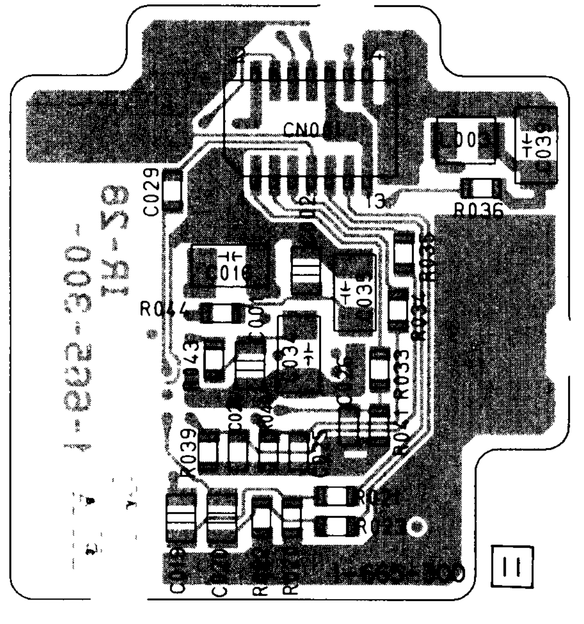
•SIGNAL PATH

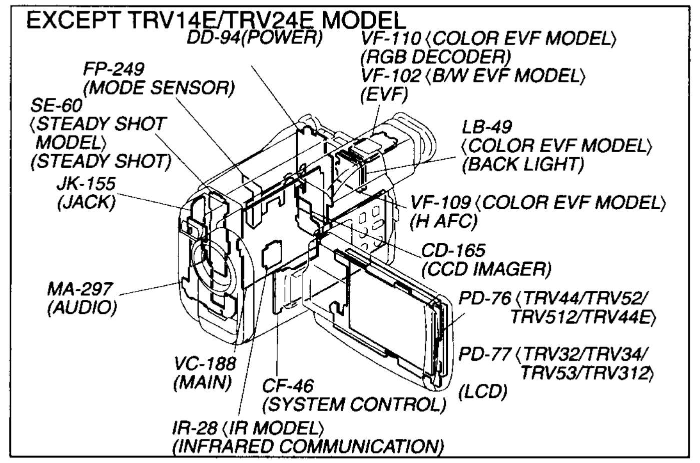
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC			➡》	➡
PB			⇨》	⇨

IR-28 BOARD (SIDE A)


C038
R009
R010
C036
C032
R008
C006
C005 R005
Q007
R007
C004
R004
C010
C009
C008
C003
C031
C017
L002
R006
C001
L004
C023
C012
C013
C015
C014
C033
C018
C002
C034
R024
R002
R017
C011
R019 R018
C021
IC001
1-665-300
II

IR-28 BOARD (SIDE B)


CN001
C029
C019
C016
C035
R036
R044
R043
C039
R033
Q006
1-665-300
II


EXCEPT TRV14E/TRV24E MODEL
DD-94(POWER)
VF-110 (COLOR EVF MODEL)
(RGB DECODER)
VF-102 (B/W EVF MODEL)
(EVF)
FP-249
(MODE SENSOR)
SE-60
(STEADY SHOT MODEL)
(STEADY SHOT)
JK-155
(JACK)
LB-49
(COLOR EVF MODEL)
(BACK LIGHT)
VF-109 (COLOR EVF MODEL)
(H AFC)
CD-165
(CCD IMAGER)
MA-297
(AUDIO)
PD-76 (TRV44/TRV52/TRV512/TRV44E)
PD-77 (TRV32/TRV34/TRV53/TRV312)
(LCD)
VC-188
(MAIN)
CF-46
(SYSTEM CONTROL)
IR-28 (IR MODEL)
(INFRARED COMMUNICATION)

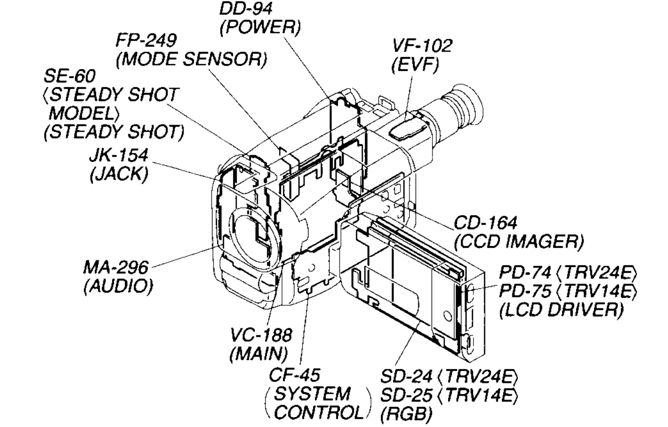
CF-45 (SYSTEM CONTROL) PRINTED WIRING BOARD

— Ref. No. CF-45 Board; 2,000 Series —

CF-45 BOARD

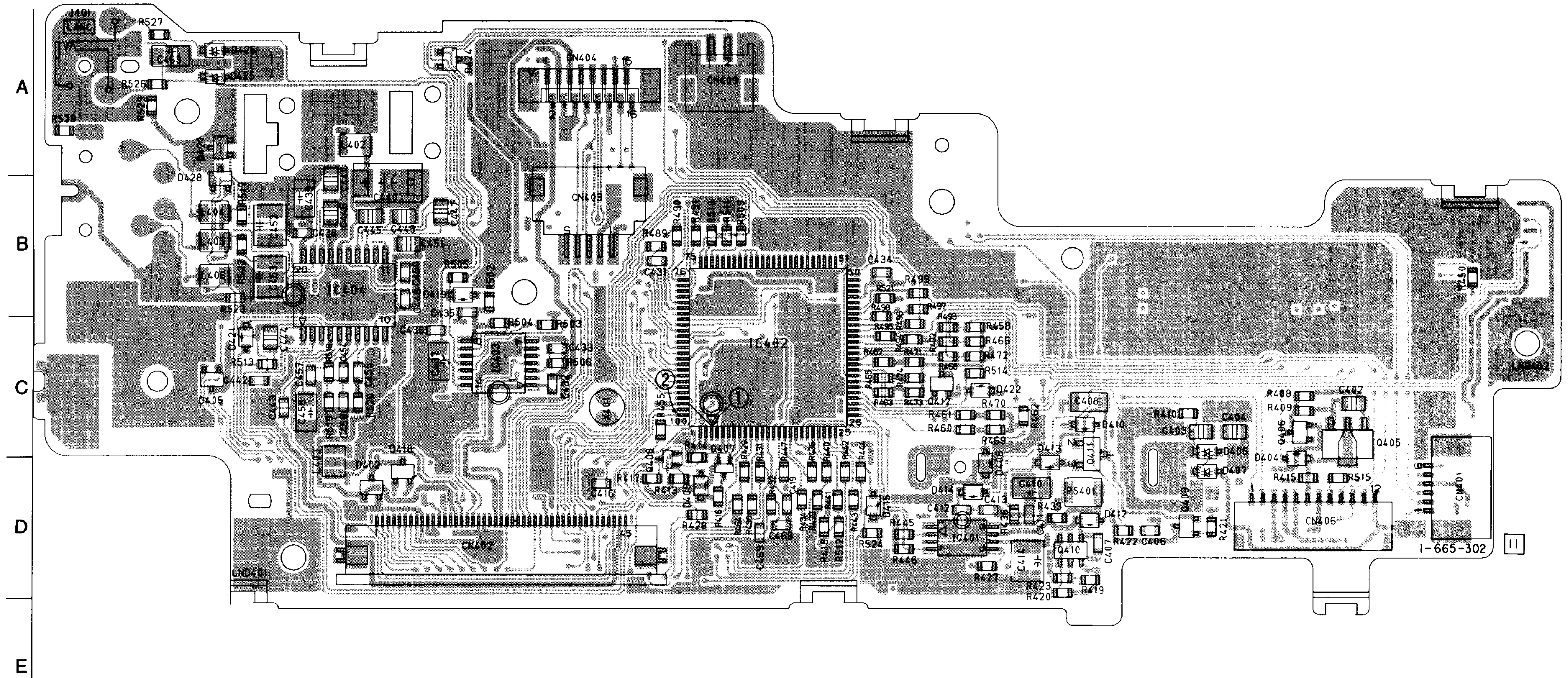
BH401	F-7	C462	H-2	L406	B-2	R449	G-3	R502	B-4
		C465	H-2			R450	B-10	R503	C-4
C401	I-5	C467	H-2	PS401	D-8	R451	H-10	R504	C-4
C402	C-10	C468	D-6			R452	G-5	R505	B-4
C405	H-8	C469	D-6	Q401	I-5	R453	G-5	R506	C-4
C406	D-8	C470	I-5	Q402	H-4	R454	G-5	R507	H-5
C407	D-8			Q403	I-5	R455	C-5	R508	H-5
C408	C-8	CN401	C-10	Q404	I-5	R456	G-5	R509	B-6
C409	F-5	CN402	D-4	Q405	C-10	R457	G-5	R510	B-5
C410	D-7	CN403	B-4	Q406	D-9	R458	C-7	R511	B-5
C412	D-7	CN405	F-9	Q409	D-9	R459	G-5	R513	C-2
C413	D-7	CN406	D-10	Q411	D-8	R460	C-7	R514	C-7
C414	D-7	CN407	H-11	Q412	C-7	R461	C-7	R515	D-10
C415	G-5	CN409	A-5			R462	C-7	R517	B-2
C416	D-5			R401	F-10	R463	C-6	R518	C-3
C417	H-6	D401	F-10	R402	F-10	R464	D-5	R519	C-3
C418	G-6	D402	D-3	R406	I-5	R465	C-6	R520	C-3
C419	D-6	D403	I-5	R407	I-5	R466	C-7	R521	B-6
C421	G-5	D404	D-9	R408	C-9	R467	C-6	R523	2
C422	G-5	D405	C-2	R409	C-9	R468	C-7	R524	D-6
C424	H-6	D406	D-9	R410	C-9	R469	C-7	R526	A-1
C425	F-5	D407	D-9	R411	H-8	R470	C-7	R527	A-1
C426	H-5	D408	D-7	R412	H-7	R471	C-6	R528	A-1
C427	H-5	D410	C-8	R414	D-5	R472	C-7	R530	I-5
C429	H-6	D411	I-4	R418	D-6	R473	C-6		
C430	H-6	D414	D-7	R421	D-9	R474	C-6	S401	F-1
C431	B-5	D415	D-6	R422	D-8	R476	H-5	S402	H-8
C432	C-4	D416	G-4	R424	G-5	R477	H-5	S403	I-3
C433	C-4	D418	D-3	R425	F-5	R478	H-6	S404	F-5
C434	B-6	D419	D-4	R426	F-5	R479	H-6	S405	G-3
C435	B-3	D420	H-3	R427	D-7	R480	H-5	S406	G-4
C437	C-3	D421	C-2	R428	D-5	R481	H-5	S407	F-3
C438	B-3	D422	C-7	R429	D-6	R482	H-5	S408	H-3
C439	B-3	D424	A-3	R430	D-5	R483	H-5	S409	G-10
C440	B-3	D425	A-2	R431	D-6	R485	G-6	S410	H-10
C441	B-3	D426	A-2	R432	D-6	R486	H-5	S411	G-5
C442	C-2	D427	A-2	R433	D-8	R487	H-6	S412	F-4
C443	C-2	D430	I-2	R434	D-6	R488	G-6	S413	H-2
C444	C-2	D431	H-2	R435	D-6	R489	B-5	S414	G-2
C445	B-3			R437	F-4	R490	B-5	S415	I-2
C446	B-3	IC401	D-7	R438	G-4	R491	B-5		
C448	B-3	IC402	C-6	R439	D-6	R492	C-7	X401	C-4
C449	B-3	IC403	C-4	R440	D-6	R493	C-7	X402	G-5
C450	B-3	IC404	B-3	R441	D-6	R494	C-6		
C451	B-3			R442	D-6	R495	C-6		
C452	B-3	J401	A-1	R443	D-6	R496	B-6		
C454	C-3			R444	D-6	R497	B-6		
C455	C-3	L401	H-6	R445	D-7	R498	C-6		
C456	C-2	L402	A-3	R446	D-7	R499	B-6		
C458	C-3	L403	D-3	R447	D-6	R500	G-2		
C461	H-2	L404	B-2	R448	F-4	R501	G-2		

TRV14E/TRV24E MODEL

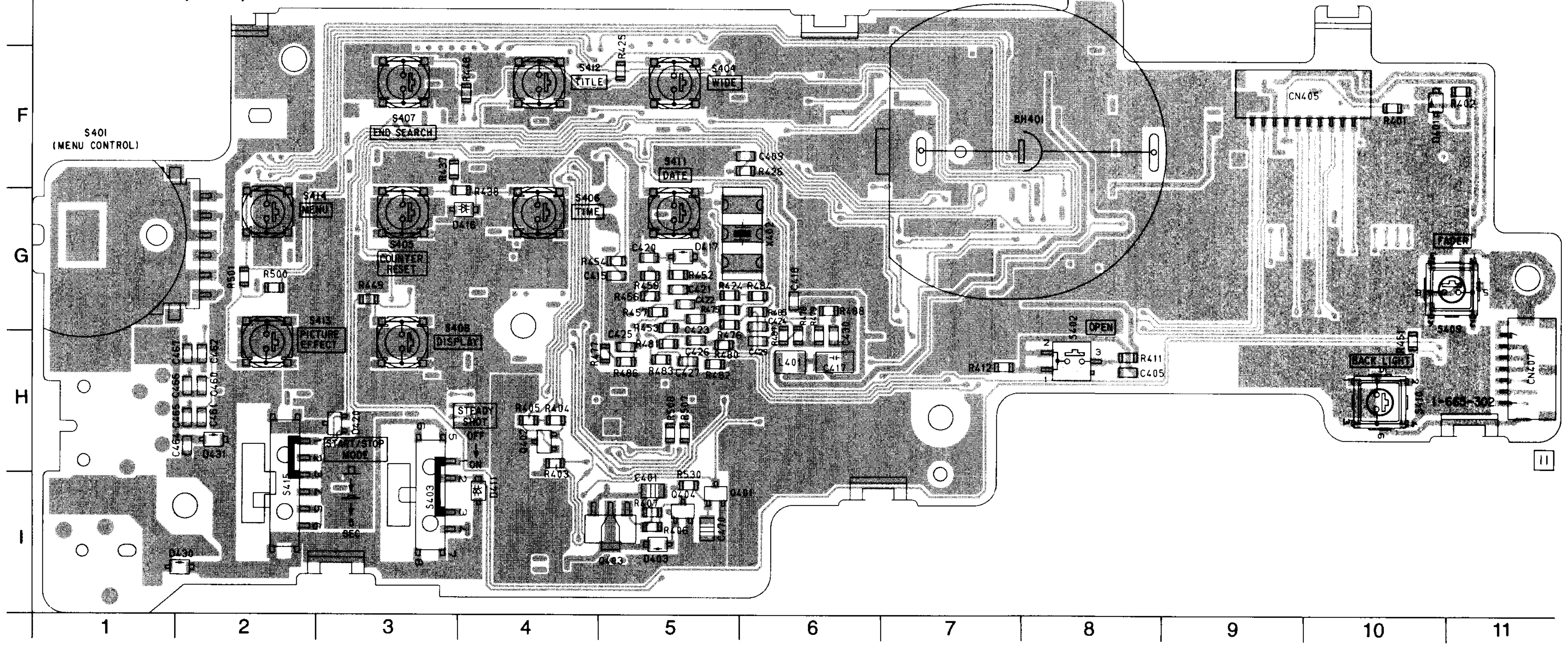

DD-94
(POWER)
FP-249
(MODE SENSOR)
VF-102
(EVF)
SE-60
(STEADY SHOT
MODEL)
(STEADY SHOT)
JK-154
(JACK)
CD-164
(CCD IMAGER)
MA-296
(AUDIO)
PD-74 (TRV24E)
PD-75 (TRV14E)
(LCD DRIVER)
VC-188
(MAIN)
CF-45
(SYSTEM
CONTROL)
SD-24 (TRV24E)
SD-25 (TRV14E)
(RGB)

There are few cases that the part printed on this diagram isn't mounted in this model.

CF-45 BOARD (SIDE A)


A
B
C
D
E
J401
LANC
CN404
CN409
CN403
IC404
IC402
IC401
CN402
CN406
CN401
PS401
LND401
LND402
1-665-302

CF-45 BOARD (SIDE B)


F
G
H
I
1
2
3
4
5
6
7
8
9
10
11
S401
(MENU CONTROL)
S407
END SEARCH
S412
TITLE
S404
WIDE
S411
DATE
S414
MENU
S406
TIME
S405
COUNTER RESET
S413
PICTURE EFFECT
S408
DISPLAY
STEADY SHOT
OFF
ON
START/STOP MODE
S402
OPEN
BH401
CN405
CN407
FADER
BACK LIGHT
1-665-302

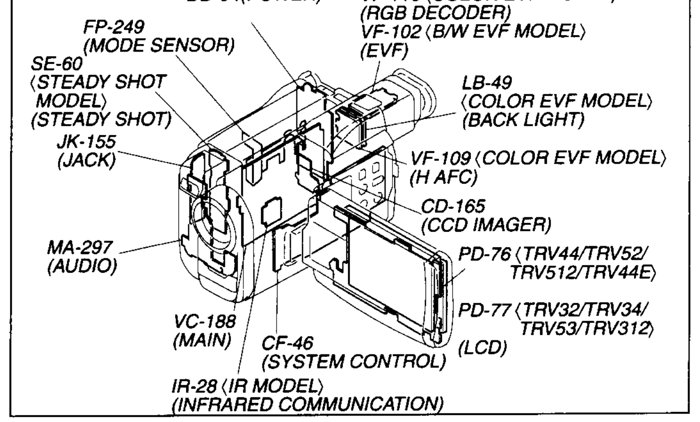
CF-46 (SYSTEM CONTROL) PRINTED WIRING BOARD

— Ref. No CF-46 Board; 2,000 Series —

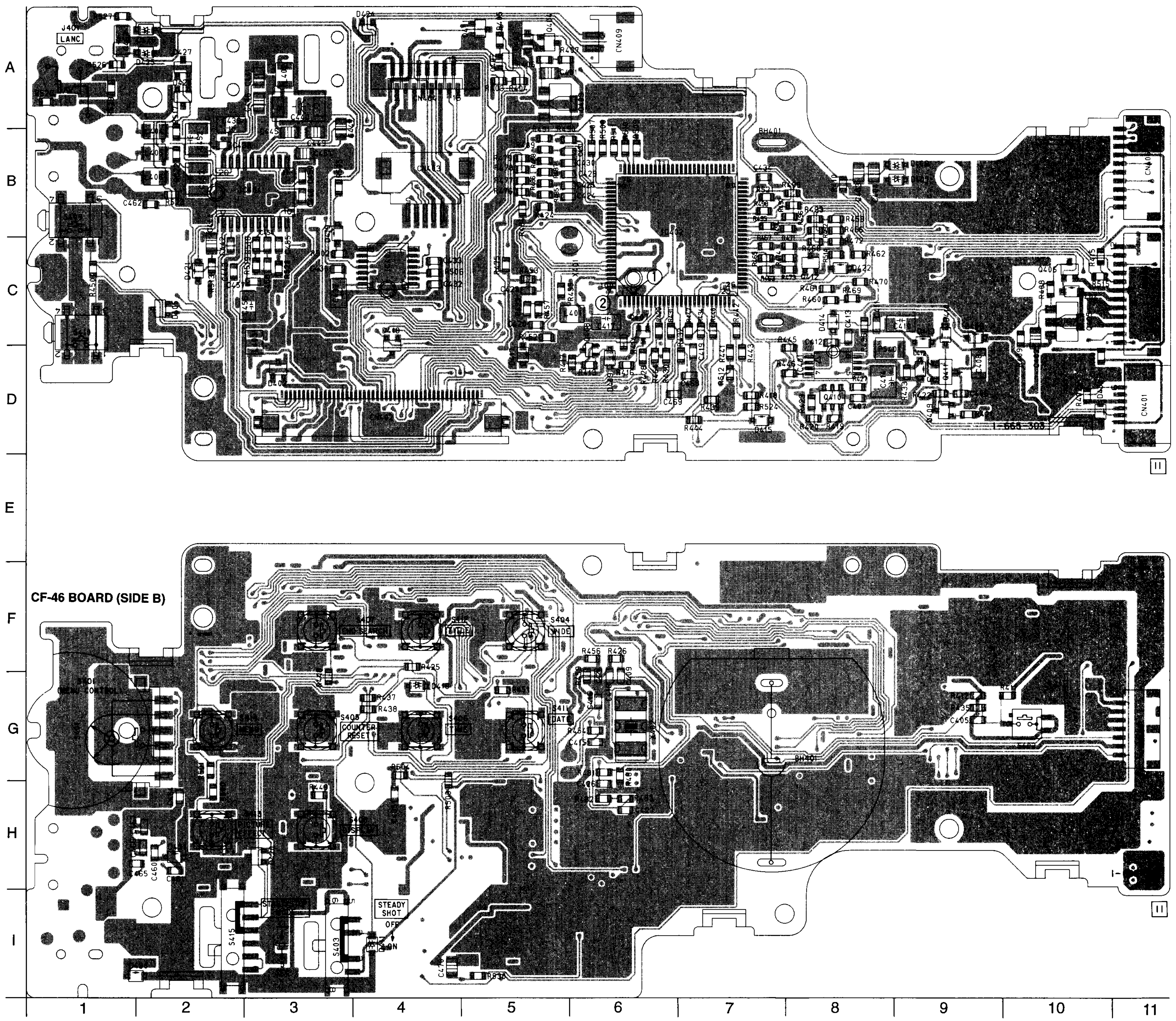
CF-46 BOARD

BH401	G-8	C469	D-6			R449	H-3	R503	H-4
		C470	I-4	Q401	A-5	R450	C-1	R504	G-4
C401	A-6			Q402	A-5	R451	G-5	R505	B-4
C402	D-10	CN401	D-11	Q403	A-6	R452	C-5	R506	C-5
C405	G-9	CN402	D-4	Q404	A-6	R453	C-5	R507	B-6
C406	D-10	CN403	B-4	Q405	C-10	R454	G-6	R508	B-6
C407	D-8	CN404	A-4	Q406	C-10	R455	C-6	R509	B-6
C408	C-9	CN405	B-11	Q409	D-9	R456	F-6	R510	B-6
C409	G-6	CN406	C-11	Q411	D-9	R457	C-5	R511	B-6
C410	C-9	CN407	G-11	Q412	C-8	R458	B-8	R513	C-2
C412	D-8	CN409	A-6			R459	F-6	R514	C-8
C413	D-8			R401	D-10	R460	C-8	R515	B-10
C414	D-8	D401	D-10	R402	D-10	R461	C-8	R517	A-2
C415	G-6	D402	D-3	R403	A-5	R462	C-8	R518	C-3
C416	G-6	D403	A-5	R404	A-5	R463	C-7	R519	C-3
C417	D-6	D404	C-10	R405	A-5	R464	D-6	R520	C-3
C418	G-6	D405	C-2	R406	A-5	R465	C-7	R521	B-7
C419	D-7	D406	B-9	R407	A-6	R466	C-8	R522	B-2
C421	G-6	D407	B-9	R408	C-10	R467	C-3	R523	B-2
C422	C-5	D408	C-9	R409	D-10	R468	C-8	R524	D-8
C424	B-6	D410	C-9	R410	B-8	R469	C-8	R526	A-1
C425	B-6	D411	I-4	R411	F-10	R470	C-8	R527	A-1
C426	H-6	D414	C-8	R412	F-9	R471	C-7	R528	A-1
C427	H-6	D415	D-7	R414	D-6	R472	C-8	R530	I-5
C429	B-6	D416	G-4	R415	C-10	R473	C-8		
C430	B-6	D418	C-4	R418	D-8	R474	C-8	S401	G-1
C431	B-6	D419	C-3	R421	D-9	R476	B-5	S402	G-10
C432	C-4	D420	H-3	R422	D-9	R477	B-5	S403	I-3
C433	C-4	D421	C-3	R424	C-5	R478	B-5	S404	F-6
C434	B-8	D422	C-9	R425	F-4	R479	B-5	S405	G-4
C435	H-4	D424	A-4	R426	F-6	R480	G-6	S406	G-5
C437	C-4	D425	A-2	R427	D-8	R481	G-6	S407	F-4
C438	B-3	D426	A-2	R428	D-6	R482	H-6	S408	H-4
C439	B-3	D427	A-3	R429	C-7	R483	H-6	S409	B-1
C440	A-3	D428	A-2	R430	D-7	R485	C-5	S410	C-1
C441	A-3	D430	I-2	R431	C-7	R486	B-5	S411	G-6
C442	C-3	D431	H-2	R432	D-7	R487	B-5	S412	F-5
C443	C-3			R433	D-9	R488	B-5	S413	H-3
C444	B-3	IC401	C-8	R434	C-7	R489	B-5	S414	G-3
C445	B-3	IC402	B-7	R435	G-9	R490	A-6	S415	I-2
C446	A-3	IC403	C-4	R437	G-4	R491	B-5		
C448	B-4	IC404	B-3	R438	G-4	R492	C-8	X401	C-6
C449	B-4			R439	D-7	R493	C-8	X402	G-6
C450	B-4	J401	A-1	R440	C-7	R494	C-7		
C451	B-4	J402	B-1	R441	D-7	R495	C-7		
C452	B-2			R442	C-7	R496	C-8		
C453	B-2	L401	C-6	R443	D-7	R497	B-7		
C454	C-3	L402	A-3	R444	D-7	R498	C-7		
C455	C-3	L403	C-3	R445	D-8	R499	B-7		
C456	C-3	L404	A-2	R446	D-8	R500	H-2		
C458	C-3	L405	B-2	R447	C-7	R501	G-2		
C468	D-7	L406	B-2	R448	G-3	R502	C-4		

EXCEPT TRV14E/TRV24E MODEL


DD-94(POWER)
VF-110 (COLOR EVF MODEL) (RGB DECODER)
VF-102 (B/W EVF MODEL) (EVF)
FP-249 (MODE SENSOR)
SE-60 (STEADY SHOT MODEL) (STEADY SHOT)
JK-155 (JACK)
LB-49 (COLOR EVF MODEL) (BACK LIGHT)
VF-109 (COLOR EVF MODEL) (H AFC)
CD-165 (CCD IMAGER)
MA-297 (AUDIO)
PD-76 (TRV44/TRV52/TRV512/TRV44E)
PD-77 (TRV32/TRV34/TRV53/TRV312) (LCD)
VC-188 (MAIN)
CF-46 (SYSTEM CONTROL)
IR-28 (IR MODEL) (INFRARED COMMUNICATION)

CF-46 BOARD (SIDE A)


A
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C
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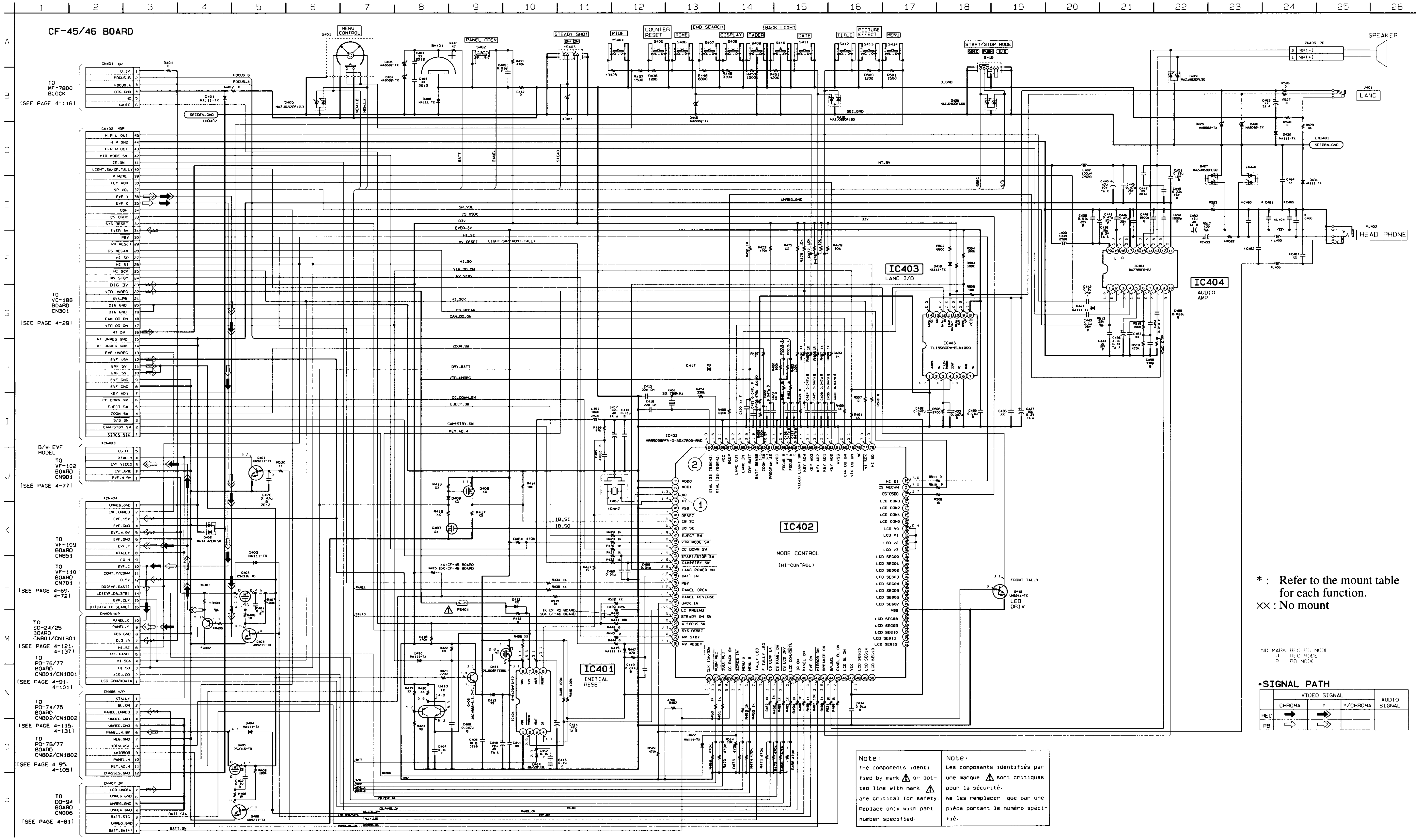
2
3
4
5
6
7
8
9
10
11
LANC
J401
BH401
CN409
CN406
CN401
Q406
Q412
Q415
1-668-303
11
CF-46 BOARD (SIDE B)
COUNTER RESET
DATA
STEADY SHOT OFF ON
S415
S403
S404
BH401
11

CF-45/46 (SYSTEM CONTROL) SCHEMATIC DIAGRAM

— Ref. No. CF-45/46 Board; 2,000 Series —


CF-45/46 BOARD
TO MF-7800 BLOCK (SEE PAGE 4-118)
TO VC-188 BOARD CN301 (SEE PAGE 4-29)
B/W EVF MODEL TO VF-102 BOARD CN901 (SEE PAGE 4-77)
TO VF-109 BOARD CN851
TO VF-110 BOARD CN701 (SEE PAGE 4-69, 4-72)
TO SD-24/25 BOARD CN801/CN1801 (SEE PAGE 4-121, 4-137)
TO PD-76/77 BOARD CN801/CN1801 (SEE PAGE 4-91, 4-101)
TO PD-74/75 BOARD CN802/CN1802 (SEE PAGE 4-115, 4-131)
TO PD-75/77 BOARD CN802/CN1802 (SEE PAGE 4-95, 4-105)
TO DD-94 BOARD CN006 (SEE PAGE 4-81)
MENU CONTROL
PANEL OPEN
STEADY SHOT
WIDE
COUNTER RESET
TIME
END SEARCH
DISPLAY
FADER
BACK LIGHT
DATE
TITLE
PICTURE EFFECT
MENU
START/STOP MODE
SPEAKER
LANC
HEAD PHONE
IC401 INITIAL RESET
IC402 MODE CONTROL (HI-CONTROL)
IC403 LANC I/O
IC404 AUDIO AMP
FRONT TALLY
LED DRIV
1
2
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
A B C D E F G H I J K L M N O P

* : Refer to the mount table for each function.
XX : No mount

NO MARK : REC/PB MODE
R : REC MODE
P : PB MODE

•SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡		
PB	⇨	⇨		

Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Note:
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

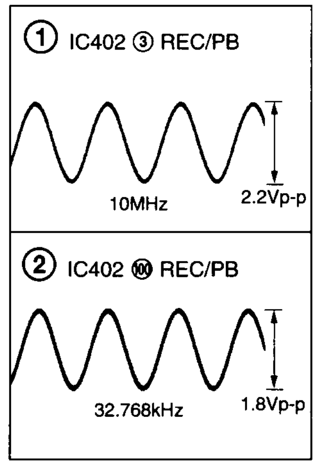
〈Mount table for each function〉

Ref_No	MONO/xCE SS-N/W-N/BW	MONO/xCE SS/W-N/BW	MONO/xCE SS/W/BW	MONO/xCE SS-N/W/BW	MONO/xCE SS-N/W-N/CO	MONO/xCE SS/W-N/CO	MONO/xCE SS/W/CO	MONO/xCE SS-N/W/CO	MONO/CE SS-N/W-N/BW	MONO/CE SS/W-N/BW	MONO/CE SS/W/BW	MONO/CE SS-N/W/BW	MONO/CE SS-N/W-N/CO	MONO/CE SS/W-N/CO	MONO/CE SS/W/CO	MONO/CE SS-N/W/CO
C453	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
C460	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
C461	XX	XX	XX	XX	XX	XX	XX	XX	1000p	1000p	1000p	1000p	1000p	1000p	1000p	1000p
C462	XX	XX	XX	XX	XX	XX	XX	XX	1000p	1000p	1000p	1000p	1000p	1000p	1000p	1000p
C465	XX	XX	XX	XX	XX	XX	XX	XX	1000p	1000p	1000p	1000p	1000p	1000p	1000p	1000p
C466	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
C467	XX	XX	XX	XX	XX	XX	XX	XX	1000p	1000p	1000p	1000p	1000p	1000p	1000p	1000p
CN403	5P	5P	5P	5P	XX	XX	XX	XX	5P	5P	5P	5P	XX	XX	XX	XX
CN404	XX	XX	XX	XX	16P	16P	16P	16P	XX	XX	XX	XX	16P	16P	16P	16P
D411	XX	MA8082-TX	MA8082-TX	XX	XX	MA8082-TX	MA8082-TX	XX	XX	MA8082-TX	MA8082-TX	XX	XX	MA8082-TX	MA8082-TX	XX
D428	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
J402	1P	1P	1P	1P	1P	1P	1P	1P	1P	1P	1P	1P	1P	1P	1P	1P
L404	0	0	0	0	0	0	0	0	100uH	100uH	100uH	100uH	100uH	100uH	100uH	100uH
L405	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
L406	0	0	0	0	0	0	0	0	100uH	100uH	100uH	100uH	100uH	100uH	100uH	100uH
Q402	2SB1218A-Q	2SB1218A-Q	2SB1218A-Q	2SB1218A-Q	XX	XX	XX	XX	2SB1218A-Q	2SB1218A-Q	2SB1218A-Q	2SB1218A-Q	XX	XX	XX	XX
R403	10k	10k	10k	10k	XX	XX	XX	XX	10k	10k	10k	10k	XX	XX	XX	XX
R404	XX	XX	XX	XX	0	0	0	0	XX	XX	XX	XX	0	0	0	0
R405	10k	10k	10k	10k	XX	XX	XX	XX	10k	10k	10k	10k	XX	XX	XX	XX
R425	XX	XX	3300	3300	XX	XX	3300	3300	XX	XX	3300	3300	XX	XX	3300	3300
R522	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
S403	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
S404	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX

Ref_No	ST/xCE SS-N/W-N/BW	ST/xCE SS/W-N/BW	ST/xCE SS/W/BW	ST/xCE SS-N/W/BW	ST/xCE SS-N/W-N/CO	ST/xCE SS/W-N/CO	ST/xCE SS/W/CO	ST/xCE SS-N/W/CO	ST/CE SS-N/W-N/BW	ST/CE SS/W-N/BW	ST/CE SS/W/BW	ST/CE SS-N/W/BW	ST/CE SS-N/W-N/CO	ST/CE SS/W-N/CO	ST/CE SS/W/CO	ST/CE SS-N/W/CO
C453	47u	47u	47u	47u	47u	47u	47u	47u	47u	47u	47u	47u	47u	47u	47u	47u
C460	XX	XX	XX	XX	XX	XX	XX	XX	1000p	1000p	1000p	1000p	1000p	1000p	1000p	1000p
C461	XX	XX	XX	XX	XX	XX	XX	XX	1000p	1000p	1000p	1000p	1000p	1000p	1000p	1000p
C462	XX	XX	XX	XX	XX	XX	XX	XX	1000p	1000p	1000p	1000p	1000p	1000p	1000p	1000p
C465	XX	XX	XX	XX	XX	XX	XX	XX	1000p	1000p	1000p	1000p	1000p	1000p	1000p	1000p
C466	XX	XX	XX	XX	XX	XX	XX	XX	1000p	1000p	1000p	1000p	1000p	1000p	1000p	1000p
C467	XX	XX	XX	XX	XX	XX	XX	XX	1000p	1000p	1000p	1000p	1000p	1000p	1000p	1000p
CN403	5P	5P	5P	5P	XX	XX	XX	XX	5P	5P	5P	5P	XX	XX	XX	XX
CN404	XX	XX	XX	XX	16P	16P	16P	16P	XX	XX	XX	XX	16P	16P	16P	16P
D411	XX	MA8082-TX	MA8082-TX	XX	XX	MA8082-TX	MA8082-TX	XX	XX	MA8082-TX	MA8082-TX	XX	XX	MA8082-TX	MA8082-TX	XX
D428	MAZJ082DFL	MAZJ082DFL	MAZJ082DFL	MAZJ082DFL	MAZJ082DFL	MAZJ082DFL	MAZJ082DFL	MAZJ082DFL	MAZJ082DFL	MAZJ082DFL	MAZJ082DFL	MAZJ082DFL	MAZJ082DFL	MAZJ082DFL	MAZJ082DFL	MAZJ082DFL
J402	1P	1P	1P	1P	1P	1P	1P	1P	1P	1P	1P	1P	1P	1P	1P	1P
L404	0	0	0	0	0	0	0	0	100uH	100uH	100uH	100uH	100uH	100uH	100uH	100uH
L405	0	0	0	0	0	0	0	0	100uH	100uH	100uH	100uH	100uH	100uH	100uH	100uH
L406	0	0	0	0	0	0	0	0	100uH	100uH	100uH	100uH	100uH	100uH	100uH	100uH
Q402	2SB1218A-Q	2SB1218A-Q	2SB1218A-Q	2SB1218A-Q	XX	XX	XX	XX	2SB1218A-Q	2SB1218A-Q	2SB1218A-Q	2SB1218A-Q	XX	XX	XX	XX
R403	10k	10k	10k	10k	XX	XX	XX	XX	10k	10k	10k	10k	XX	XX	XX	XX
R404	XX	XX	XX	XX	0	0	0	0	XX	XX	XX	XX	0	0	0	0
R405	10k	10k	10k	10k	XX	XX	XX	XX	10k	10k	10k	10k	XX	XX	XX	XX
R425	XX	XX	3300	3300	XX	XX	3300	3300	XX	XX	3300	3300	XX	XX	3300	3300
R522	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
S403	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
S404	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX

Note
CE : PAL
xCE : EXCEPT PAL
SS : STEADY SHOT-YES
SS-N : STEADY SHOT-NO
ST : STEREO
W : WIDE-YES
W-N : WIDE-NO
BW : B/W EVF
CO : COLOR EVF

CF-44/46 BOARD



COLOR EVF MODEL

VF-110 (RGB DECODER), VF-109 (H AFC), LB-49 (BACK LIGHT) PRINTED WIRING BOARDS

— Ref. No. VF-110 Board, VF-109 Board, LB-49 Board; 4,000 Series —

There are few cases that the part printed on this diagram isn't mounted in this model.

VF-110 BOARD

C701	C-3
C702	F-3
C703	C-3
C704	F-3
C705	E-3
C706	C-3
C707	E-4
C708	E-2
C709	C-2
C710	C-4
C711	C-2
C712	B-4
C713	E-4
C714	C-2
C715	C-4
C716	B-4
C717	F-3
C718	G-4
C719	B-5
C720	G-4
C721	G-4
C722	G-4
C723	G-2
C724	A-4
C725	F-3
C726	F-4
C728	F-3
C729	G-3
C730	G-3
C731	G-3
C732	E-5
C733	G-3
C734	G-2
C735	F-4
C736	G-2
C737	F-3
C738	G-1
C739	B-1
C740	B-2
C741	C-1
C742	A-2
C744	B-2
C745	B-2
C746	G-5
C747	E-2
C748	A-5
C749	E-1
C750	E-1
C751	E-1
C752	G-1
CN701	E-3
CN702	A-4
CN703	B-1
D701	E-1
D702	C-4
D703	F-4
D704	C-2
IC701	B-3
IC702	C-4
IC703	A-5
IC704	F-1
L701	E-2
L702	B-2
L703	F-3
L704	A-1
L707	B-2
Q702	F-5
Q703	G-5
R701	E-1
R703	C-3
R704	C-3
R705	C-3
R707	C-4
R708	C-2
R709	E-5
R710	F-4
R711	E-2
R712	F-4
R716	C-2
R717	B-6
R718	F-5
R719	F-5
R720	G-4
R721	F-4
R722	G-4
R723	A-4
R724	G-1
R725	A-1
R726	D-5
R727	F-5
R728	F-5
R729	F-5
R730	F-5
R731	D-5
R732	D-5
R734	F-3
R735	B-5
R736	F-5
R737	G-1
R738	G-1
R739	G-1
R740	F-5
R743	F-4
R744	G-4
R746	G-3
R747	F-4
R748	G-4
R749	F-4
R750	G-3
R753	G-5
R754	C-1
R755	C-2
R756	B-2
R757	B-2
R761	B-2
R762	G-5
R763	A-5
R767	F-3
R768	A-5
R769	A-5
R770	A-5
R771	G-5
X701	A-3

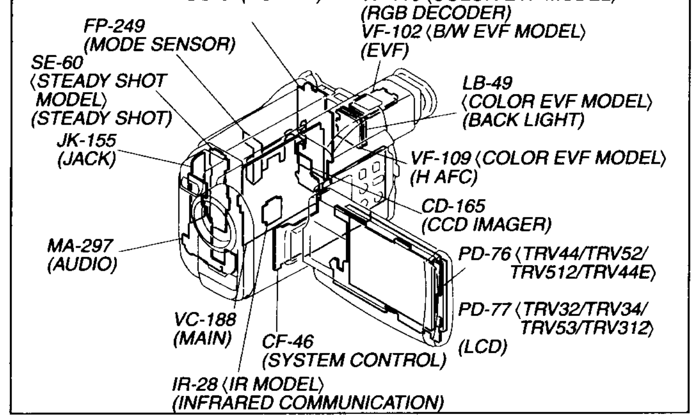
VF-109 BOARD

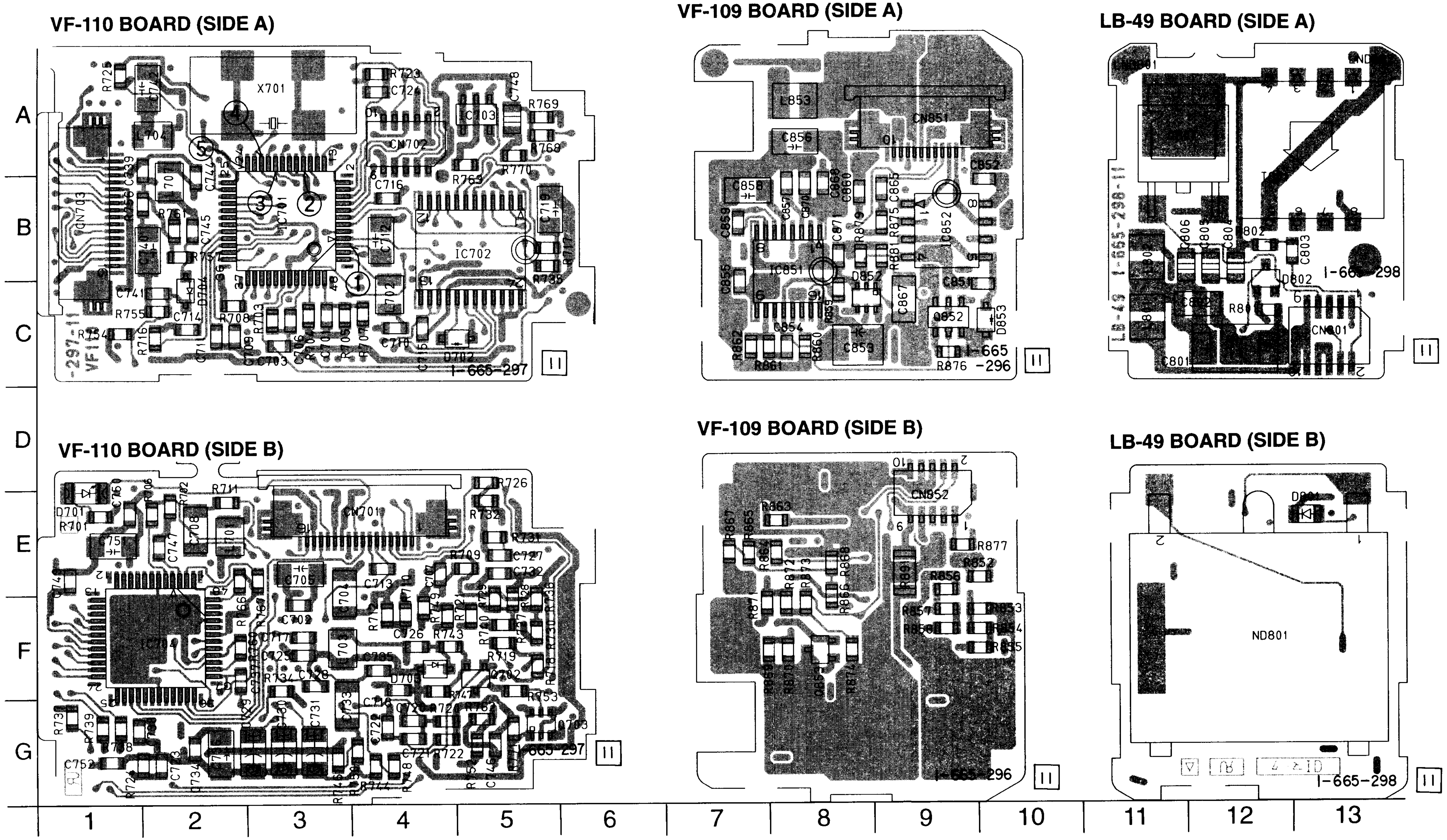
C851	C-9
C852	A-9
C853	C-8
C854	C-8
C855	B-7
C856	A-8
C857	B-8
C858	B-7
C859	B-7
C860	B-8
C865	B-9
C867	C-9
C868	B-8
C870	B-8
C871	B-8
CN851	A-9
CN852	E-9
D852	C-8
D853	C-9
IC851	B-8
IC852	B-9
L853	A-8
Q853	F-8
R852	E-9
R853	F-10
R854	F-10
R855	F-10
R856	E-9
R857	F-9
R858	F-9
R859	C-8
R860	C-8
R861	C-8
R862	C-7
R863	E-7
R864	E-7
R865	E-7
R866	F-8
R867	E-7
R868	E-8
R869	F-8
R870	F-8
R871	F-7
R872	E-8
R873	E-8
R874	F-8
R875	B-9
R879	B-8
R881	B-8
R891	E-9

LB-49 BOARD

C801	C-11
C802	C-11
C803	C-12
C804	C-12
C805	C-12
C806	C-11
CN801	C-13
D802	C-12
L801	C-11
L802	C-11
ND801	F-12
Q801	B-11
R801	C-12
R802	B-12
T801	B-12

EXCEPT TRV14E/TRV24E MODEL


DD-94(POWER)
VF-110 ⟨COLOR EVF MODEL⟩
(RGB DECODER)
VF-102 ⟨B/W EVF MODEL⟩
(EVF)
FP-249
(MODE SENSOR)
SE-60
⟨STEADY SHOT MODEL⟩
(STEADY SHOT)
LB-49
⟨COLOR EVF MODEL⟩
(BACK LIGHT)
JK-155
(JACK)
VF-109 ⟨COLOR EVF MODEL⟩
(H AFC)
CD-165
(CCD IMAGER)
MA-297
(AUDIO)
PD-76 ⟨TRV44/TRV52/TRV512/TRV44E⟩
PD-77 ⟨TRV32/TRV34/TRV53/TRV312⟩
(LCD)
VC-188
(MAIN)
CF-46
(SYSTEM CONTROL)
IR-28 ⟨IR MODEL⟩
(INFRARED COMMUNICATION)


VF-110 BOARD (SIDE A)

VF-110 BOARD (SIDE B)

VF-109 BOARD (SIDE A)

VF-109 BOARD (SIDE B)

LB-49 BOARD (SIDE A)

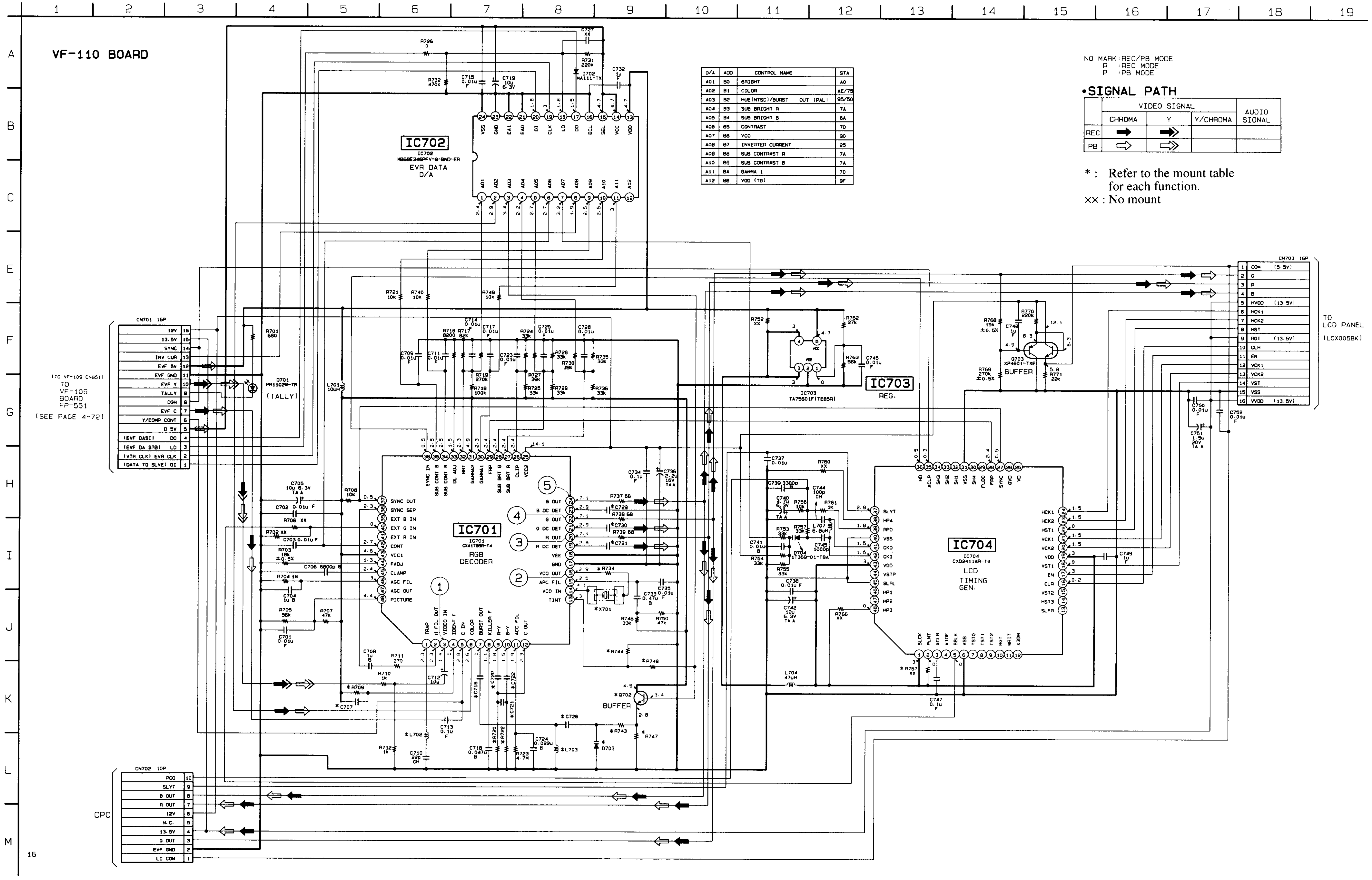
LB-49 BOARD (SIDE B)

A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
10
11
12
13
1-665-297
1-665-296
1-665-298
X701
IC701
IC702
IC703
IC704
CN701
CN702
CN703
CN851
CN852
CN801
IC851
IC852
L853
ND801
D802
Q801
T801

COLOR EVF MODEL

VF-110 (RGB DECODER) SCHEMATIC DIAGRAMS

— Ref. No. VF-110 Board; 4,000 Series —


VF-110 BOARD
IC701
CXA1788R-T4
RGB DECODER
IC702
MB88E346PFV-G-BND-ER
EVR DATA D/A
IC703
TA75S01F(TE85R)
REG.
IC704
CXD2411AR-T4
LCD TIMING GEN.
Q703
XP4601-TXE
BUFFER
Q702
BUFFER
D701
PR1102W-TR
(TALLY)
D702
MA111-TX
D704
1T369-01-T8A
X701
CN701 16P
12V 16
13.5V 15
SYNC 14
INV CUR 13
EVF 5V 12
EVF GND 11
EVF Y 10
TALLY 9
CGH 8
EVF C 7
Y/COMP CONT 6
D 5V 5
(EVF DASI) DO 4
(EVF DA STB) LD 3
(VTR CLK) EVR CLK 2
(DATA TO SLVE) OI 1
(TO VF-109 CN851)
TO VF-109 BOARD FP-551
(SEE PAGE 4-72)
CN702 10P
PCO 10
SLYT 9
B OUT 8
R OUT 7
12V 6
N.C. 5
13.5V 4
G OUT 3
EVF GND 2
LC COM 1
CPC
CN703 16P
1 COM (5.5V)
2 G
3 R
4 B
5 HVDD (13.5V)
6 HCK1
7 HCK2
8 HST
9 RGT (13.5V)
10 CLR
11 EN
12 VCK1
13 VCK2
14 VST
15 VSS
16 VVDD (13.5V)
TO LCD PANEL
(LCX005BK)
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
A B C D E F G H I J K L M

D/A	ADD	CONTROL NAME	STA
A01	B0	BRIGHT	A0
A02	B1	COLOR	AE/75
A03	B2	HUE(NTSC)/BURST OUT (PAL)	95/50
A04	B3	SUB BRIGHT R	7A
A05	B4	SUB BRIGHT B	6A
A06	B5	CONTRAST	70
A07	B6	VCO	90
A08	B7	INVERTER CURRENT	25
A09	B8	SUB CONTRAST R	7A
A10	B9	SUB CONTRAST B	7A
A11	BA	GAMMA 1	70
A12	BB	VDD (TG)	9F

NO MARK : REC/PB MODE
R : REC MODE
P : PB MODE

•SIGNAL PATH

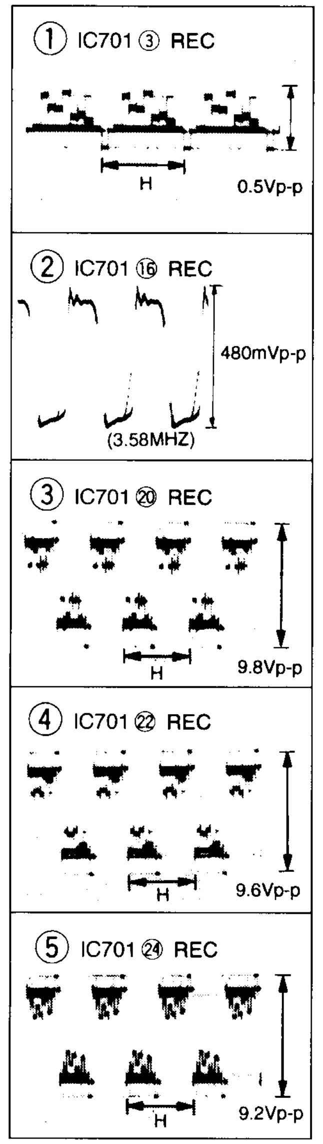
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡》		
PB	⇨	⇨》		

* : Refer to the mount table for each function.
xx : No mount

⟨**Mount table for each function**⟩

Ref_No	NT	PAL
C707	XX	680p
C716	XX	0.01u
C720	XX	0.01u
C721	XX	82p
C722	XX	0.01u
C726	XX	0.1u
C729	0.1u	3.3u
C730	0.1u	3.3u
C731	0.1u	3.3u
D703	XX	1T369-01-T
L702	82uH	56uH
L703	XX	27uH
Q702	XX	2SD1819A-Q
R709	XX	4.7M
R720	XX	6800
R722	XX	3300
R734	2200	1k
R743	XX	22k
R744	XX	0
R747	XX	4700
R748	0	XX
R767	XX	0
X701	3.579545MH	4.433619MH

VF-110 BOARD

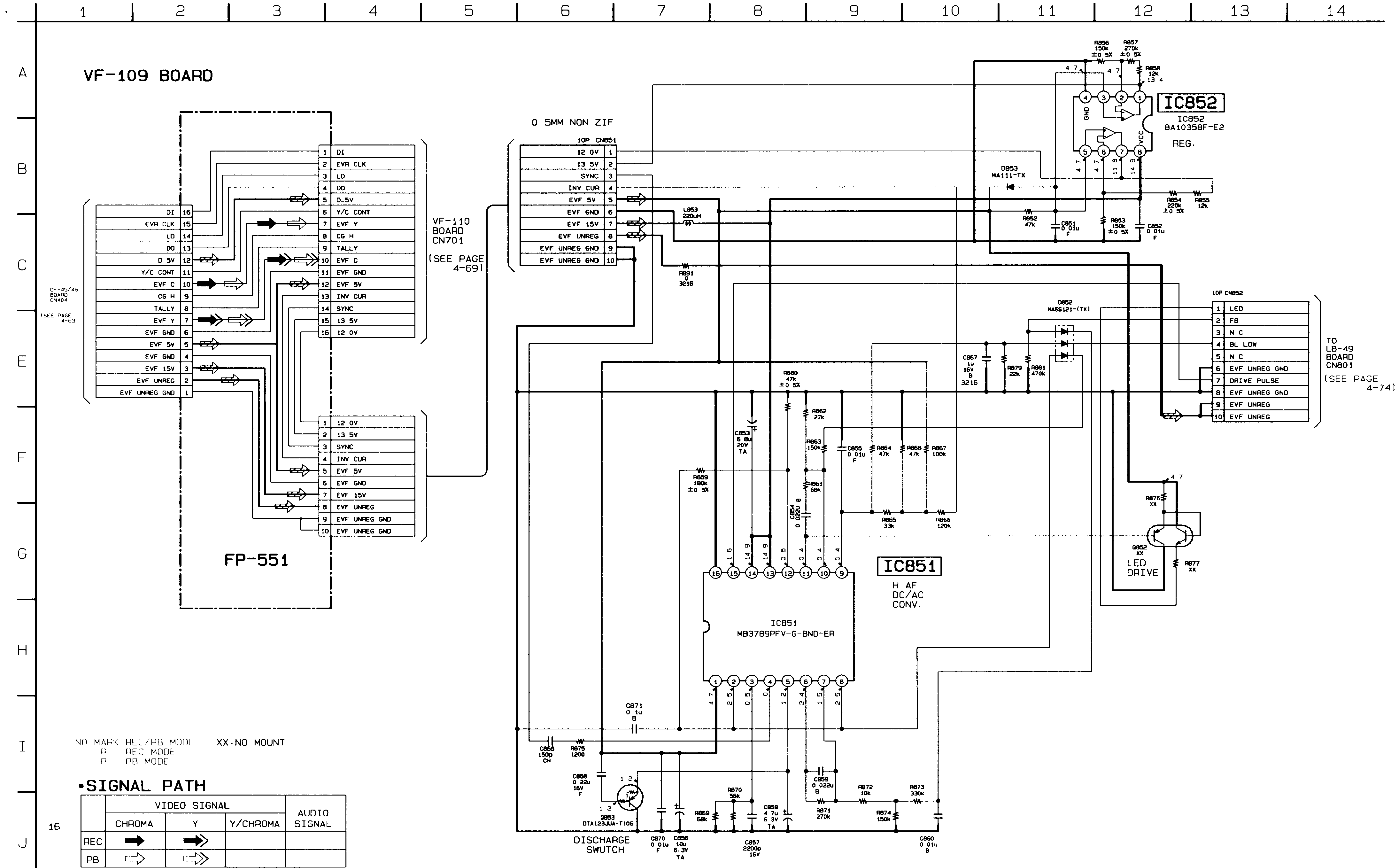


COLOR EVF MODEL

VF-109 (H AFC), LB-49 (BACK LIGHT) SCHEMATIC DIAGRAMS

— Ref. No VF-109 Board, LB-49 Board; 4,000 Series —

- See page 4-66 for VF-109 BOARD printed wiring board.

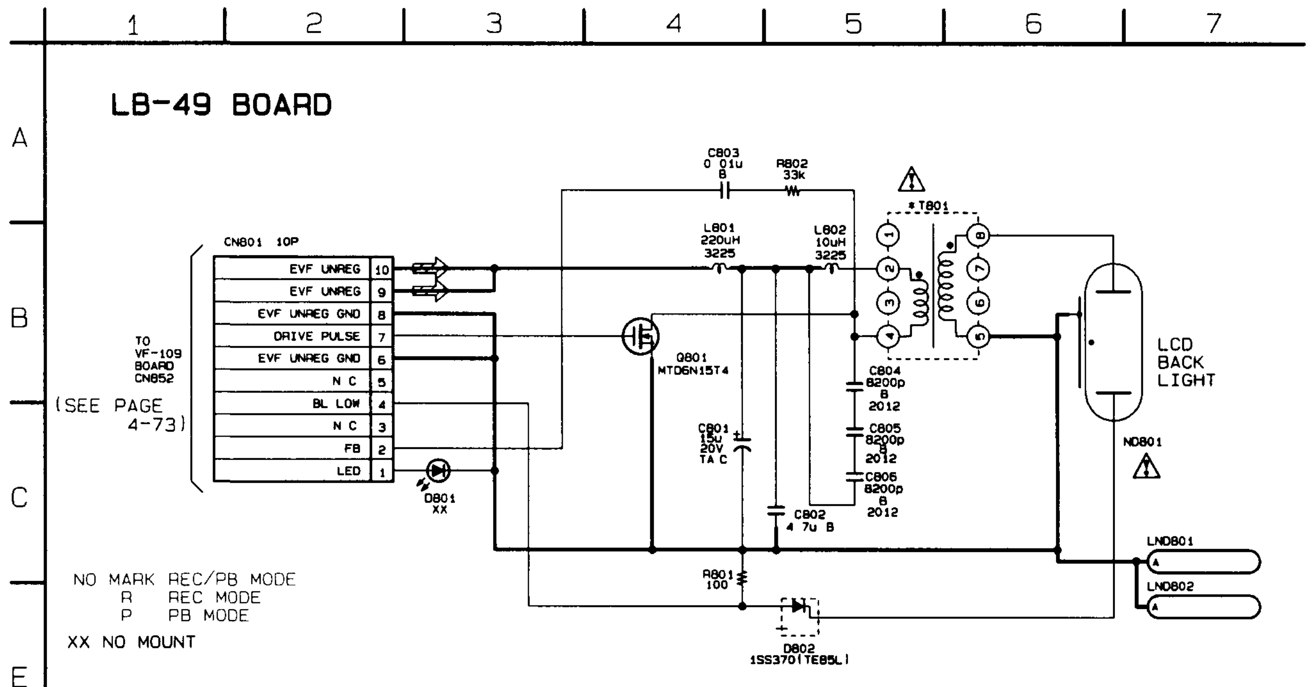

VF-109 BOARD
FP-551
CF-45/45 BOARD CN404 (SEE PAGE 4-63)
VF-110 BOARD CN701 (SEE PAGE 4-69)
0 5MM NON ZIF
10P CN851
IC852
BA10358F-E2
REG.
IC851
MB3789PFV-G-BND-ER
H AF DC/AC CONV.
10P CN852
TO LB-49 BOARD CN801 (SEE PAGE 4-74)
LED DRIVE
DISCHARGE SWITCH
D853 MA111-TX
D852 MA6S121-(TX)
Q853 DTA123JUA-T106
Q852 XX
DI
EVR CLK
LD
DO
D 5V
Y/C CONT
EVF C
CG H
TALLY
EVF Y
EVF GND
EVF 5V
EVF 15V
EVF UNREG
EVF UNREG GND
12 0V
13 5V
SYNC
INV CUR
LED
FB
N C
BL LOW
DRIVE PULSE

NO MARK REC/PB MODE
R REC MODE
P PB MODE

XX NO MOUNT

•SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡➡		
PB	⇨	⇨⇨		


LB-49 BOARD
CN801 10P
TO VF-109 BOARD CN852 (SEE PAGE 4-73)
EVF UNREG
EVF UNREG GND
DRIVE PULSE
N C
BL LOW
FB
LED
Q801 MTD6N15T4
T801
LCD BACK LIGHT
ND801
LND801
LND802
D801 XX
D802 1SS370(TE85L)
L801 220uH
L802 10uH

NO MARK REC/PB MODE
R REC MODE
P PB MODE

XX NO MOUNT

Note	Note·
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety Replace only with part number specified	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié

B/W MODEL

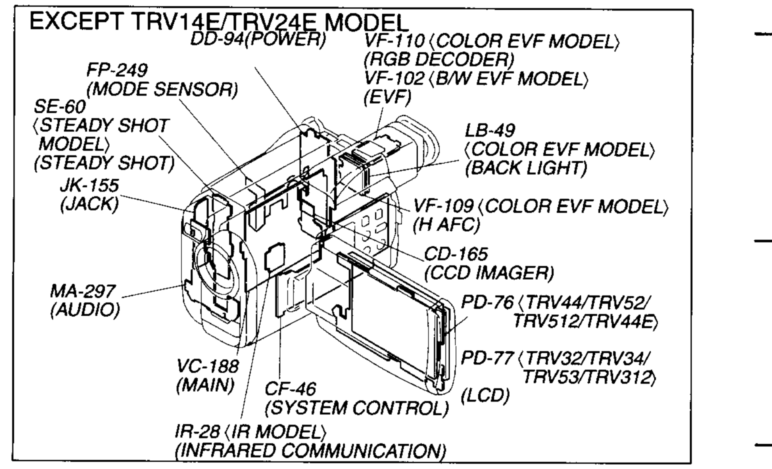
VF-102 (EVF) PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM

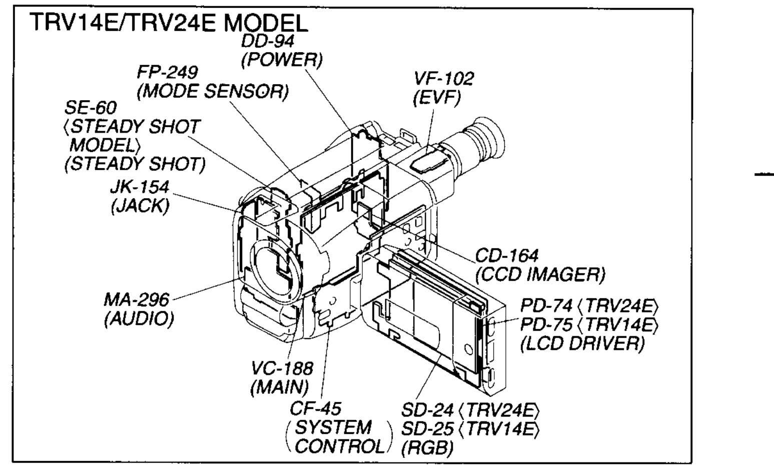
— Ref. No. VF-102 Board; 6,000 Series —

There are few cases that the part printed on this diagram isn't mounted in this model.

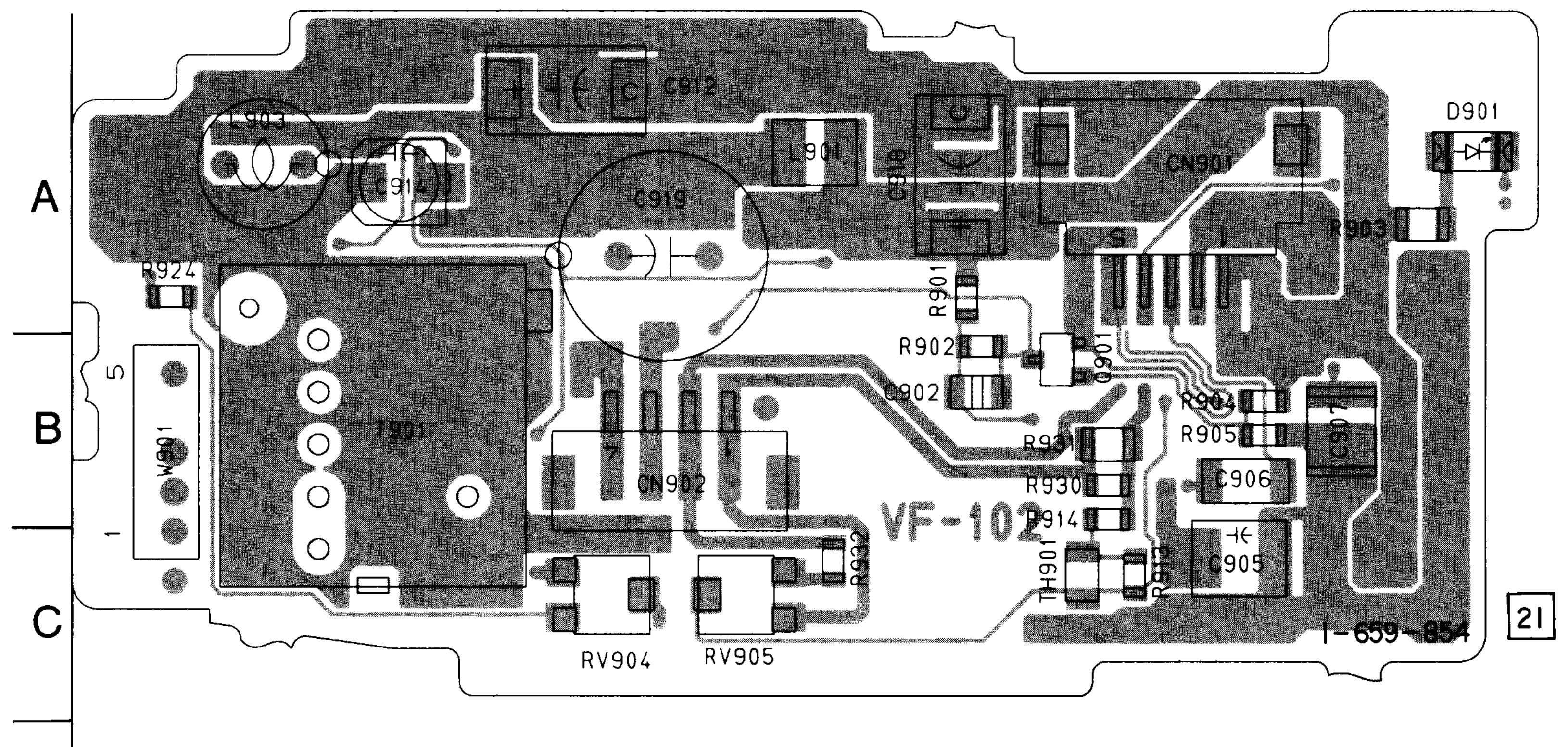
VF-102 BOARD

C902	B-5	R902	B-5
C903	E-5	R903	A-7
C904	E-6	R906	E-4
C905	C-6	R907	E-5
C906	B-6	R908	E-6
C907	B-7	R909	E-6
C908	F-5	R910	E-5
C910	F-2	R912	F-2
C911	F-2	R916	G-6
C912	A-3	R917	F-6
C914	A-2	R918	F-5
C915	F-4	R919	G-2
C916	F-1	R920	F-4
C919	A-3	R921	E-1
		R922	E-3
CN901	A-6	R923	E-3
CN902	B-3	R924	A-1
		R925	F-1
D901	A-7	R926	E-4
D902	E-1	R927	F-5
		R928	E-5
IC901	F-6	R929	F-7
		R930	B-6
L901	A-4	R931	B-6
L902	F-5	R932	C-4
L903	A-1		
L904	E-6	RV904	C-3
		RV905	C-4
Q902	E-3		
Q903	F-5	T901	B-2
Q904	F-4		
		W901	B-1
R901	A-5		

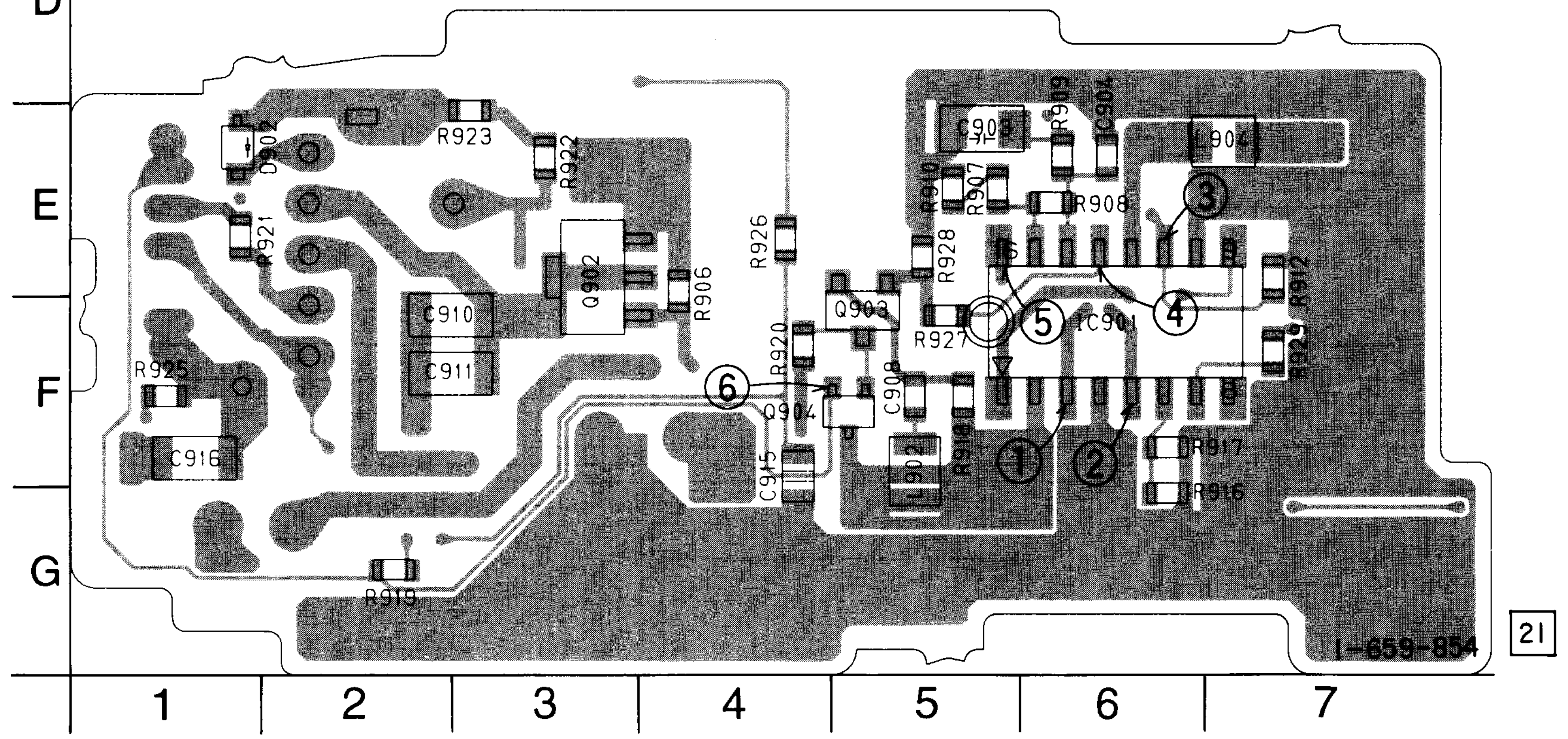

EXCEPT TRV14E/TRV24E MODEL
DD-94(POWER)
VF-110 ⟨COLOR EVF MODEL⟩ (RGB DECODER)
VF-102 ⟨B/W EVF MODEL⟩ (EVF)
FP-249 (MODE SENSOR)
SE-60 ⟨STEADY SHOT MODEL⟩ (STEADY SHOT)
LB-49 ⟨COLOR EVF MODEL⟩ (BACK LIGHT)
JK-155 (JACK)
VF-109 ⟨COLOR EVF MODEL⟩ (H AFC)
CD-165 (CCD IMAGER)
MA-297 (AUDIO)
PD-76 ⟨TRV44/TRV52/TRV512/TRV44E⟩
PD-77 ⟨TRV32/TRV34/TRV53/TRV312⟩
(LCD)
VC-188 (MAIN)
CF-46 (SYSTEM CONTROL)
IR-28 ⟨IR MODEL⟩ (INFRARED COMMUNICATION)

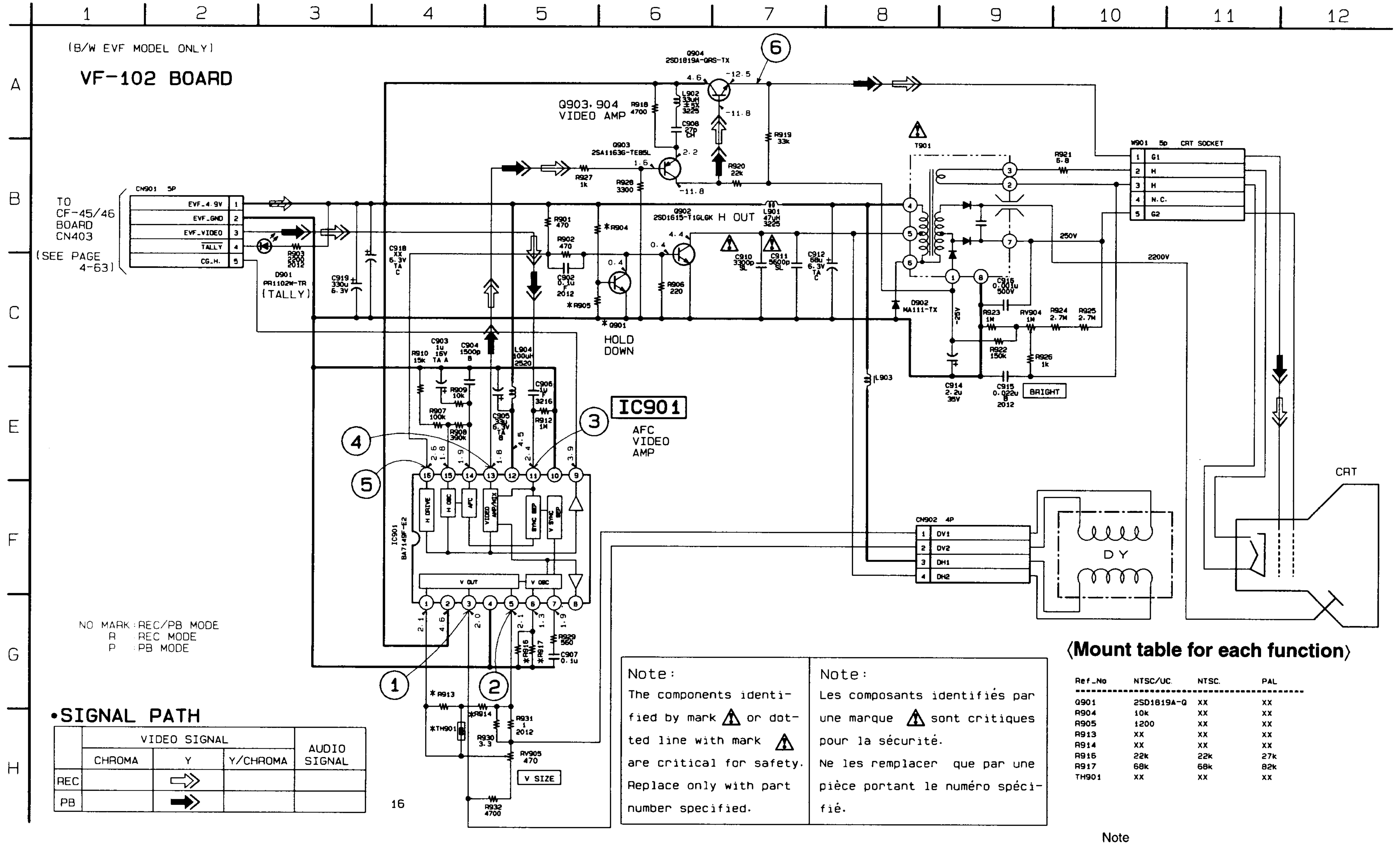

TRV14E/TRV24E MODEL
DD-94 (POWER)
FP-249 (MODE SENSOR)
VF-102 (EVF)
SE-60 ⟨STEADY SHOT MODEL⟩ (STEADY SHOT)
JK-154 (JACK)
CD-164 (CCD IMAGER)
MA-296 (AUDIO)
PD-74 ⟨TRV24E⟩
PD-75 ⟨TRV14E⟩
(LCD DRIVER)
VC-188 (MAIN)
CF-45 (SYSTEM CONTROL)
SD-24 ⟨TRV24E⟩
SD-25 ⟨TRV14E⟩
(RGB)

VF-102 BOARD (SIDE A)


A
B
C
D901
CN901
C912
L901
C919
T901
R924
W901
5
1
CN902
R901
R902
C902
R903
R931
R930
R914
R905
C906
C905
C907
TH901
R932
RV904
RV905
VF-102
1-659-854
21

VF-102 BOARD (SIDE B)


D
E
F
G
R923
R922
R921
D902
Q902
R926
R906
C910
C911
R925
C916
R920
Q904
C915
C908
Q903
R927
L902
R918
C903
R909
R907
R910
R928
R908
C904
IC901
R912
R929
R917
R916
R919
①
②
③
④
⑤
⑥
1-659-854
21
1
2
3
4
5
6
7


(B/W EVF MODEL ONLY)
VF-102 BOARD
TO CF-45/46 BOARD CN403 (SEE PAGE 4-63)
CN901 5P
EVF 4.9V
EVF GND
EVF VIDEO
TALLY
CG H
D901 (TALLY)
Q903,904 VIDEO AMP
Q904
Q903
Q902
H OUT
HOLD DOWN
IC901
AFC VIDEO AMP
IC901 BA7146M-E2
T901
W901 5P CRT SOCKET
G1
H
H
N.C.
G2
250V
2200V
BRIGHT
V SIZE
CN902 4P
DV1
DV2
DH1
DH2
DY
CRT
①
②
③
④
⑤
⑥
16
1
2
3
4
5
6
7
8
9
10
11
12
A
B
C
D
E
F
G
H

NO MARK : REC/PB MODE
R : REC MODE
P : PB MODE

•SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC		⇨		
PB		➡		

Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

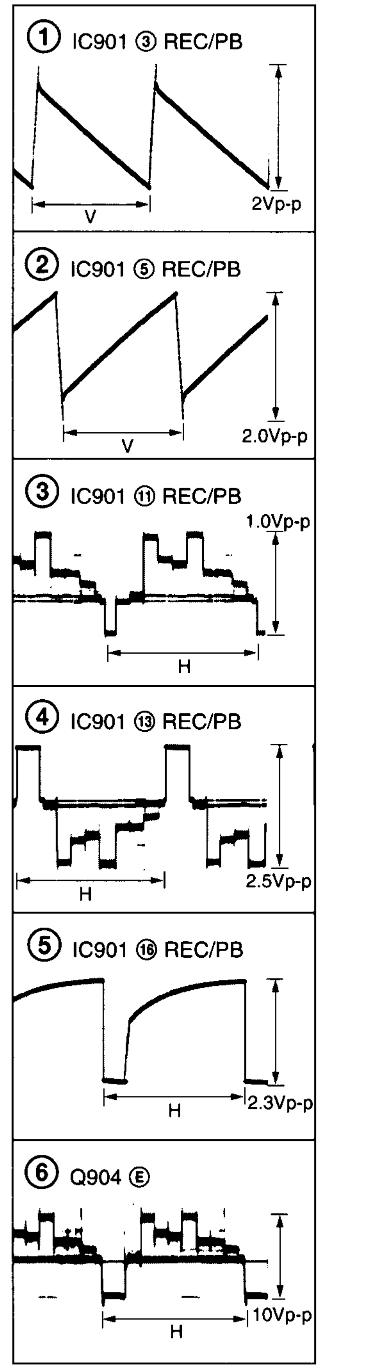
Note:
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

⟨Mount table for each function⟩

Ref_No	NTSC/UC	NTSC.	PAL
Q901	2SD1819A-Q	XX	XX
R904	10k	XX	XX
R905	1200	XX	XX
R913	XX	XX	XX
R914	XX	XX	XX
R916	22k	22k	27k
R917	68k	68k	82k
TH901	XX	XX	XX

Note
UC : US/Canadian

VF-102 BOARD



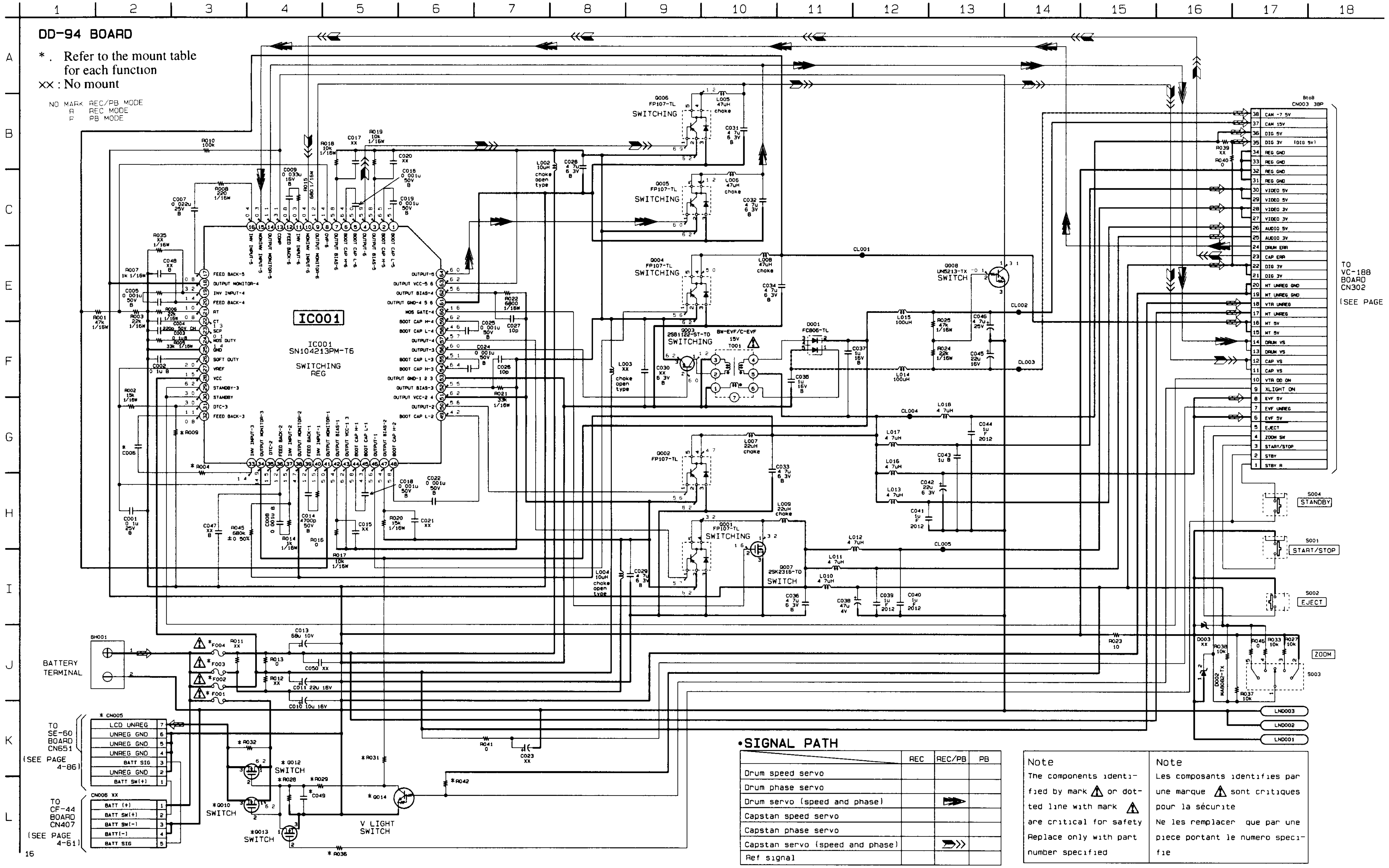
DD-94 (POWER) SCHEMATIC DIAGRAM

— Ref No DD-94 Board; 1,000 Series —

⟨Mount table for each function⟩

Ref_No	NT/LN	PAL/LN	NT/LA	PAL/LA
C049	XX	XX	0.22u	0.22u
CN005	XX	XX	3P	3P
F001	XX	XX	1.6A	XX
F002	XX	XX	XX	XX
F003	1.6A	1.6A	1.6A	1.6A
F004	1.6A	1.6A	1.6A	1.6A
Q010	XX	XX	2SK2316-TD	2SK2316-TD
Q012	XX	XX	2SK2316-TD	2SK2316-TD
Q013	XX	XX	2SK1829(TE	2SK1829(TE
Q014	XX	XX	UN5213-TX	UN5213-TX
R028	XX	XX	1M	1M
R029	XX	XX	820k	820k
R031	XX	XX	270	270
R032	XX	XX	XX	XX
R036	XX	XX	10k	10k
R042	XX	XX	33k	33k

Note
NT NTSC
LN VIDEO LIGHT-NO
LA VIDEO LIGHT-YES


DD-94 BOARD
* : Refer to the mount table for each function
XX : No mount
NO MARK REC/PB MODE
R REC MODE
P PB MODE
IC001
IC001 SN104213PM-T6 SWITCHING REG
Q006 FP107-TL SWITCHING
Q005 FP107-TL SWITCHING
Q004 FP107-TL SWITCHING
Q003 2SB1122-ST-TD SWITCHING
Q002 FP107-TL
Q001 FP107-TL SWITCHING
Q007 2SK2316-TD SWITCH
Q008 UN5213-TX SWITCH
BATTERY TERMINAL
TO SE-60 BOARD CN651 (SEE PAGE 4-86)
TO CF-44 BOARD CN407 (SEE PAGE 4-61)
TO VC-188 BOARD CN302 (SEE PAGE 4-29)
Q012 SWITCH
Q010 SWITCH
Q013 SWITCH
Q014 V LIGHT SWITCH
S004 STANDBY
S001 START/STOP
S002 EJECT
S003 ZOOM
LND003
LND002
LND001

•SIGNAL PATH

	REC	REC/PB	PB
Drum speed servo			
Drum phase servo			
Drum servo (speed and phase)		➡	
Capstan speed servo			
Capstan phase servo			
Capstan servo (speed and phase)		➡››	
Ref signal			

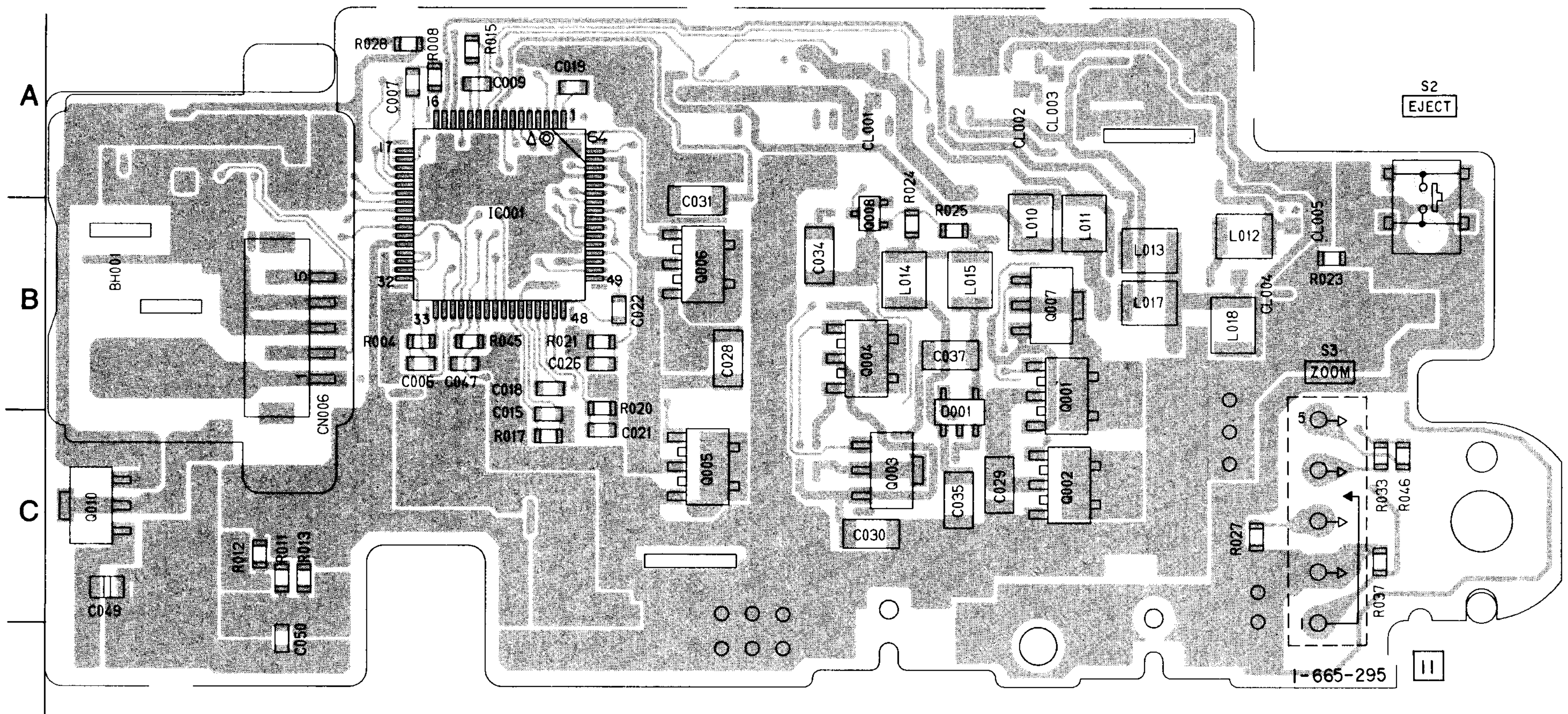
Note	Note
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety Replace only with part number specified	Les composants identifies par une marque ⚠ sont critiques pour la sécurite Ne les remplacer que par une piece portant le numero specifie

DD-94 (POWER) PRINTED WIRING BOARD

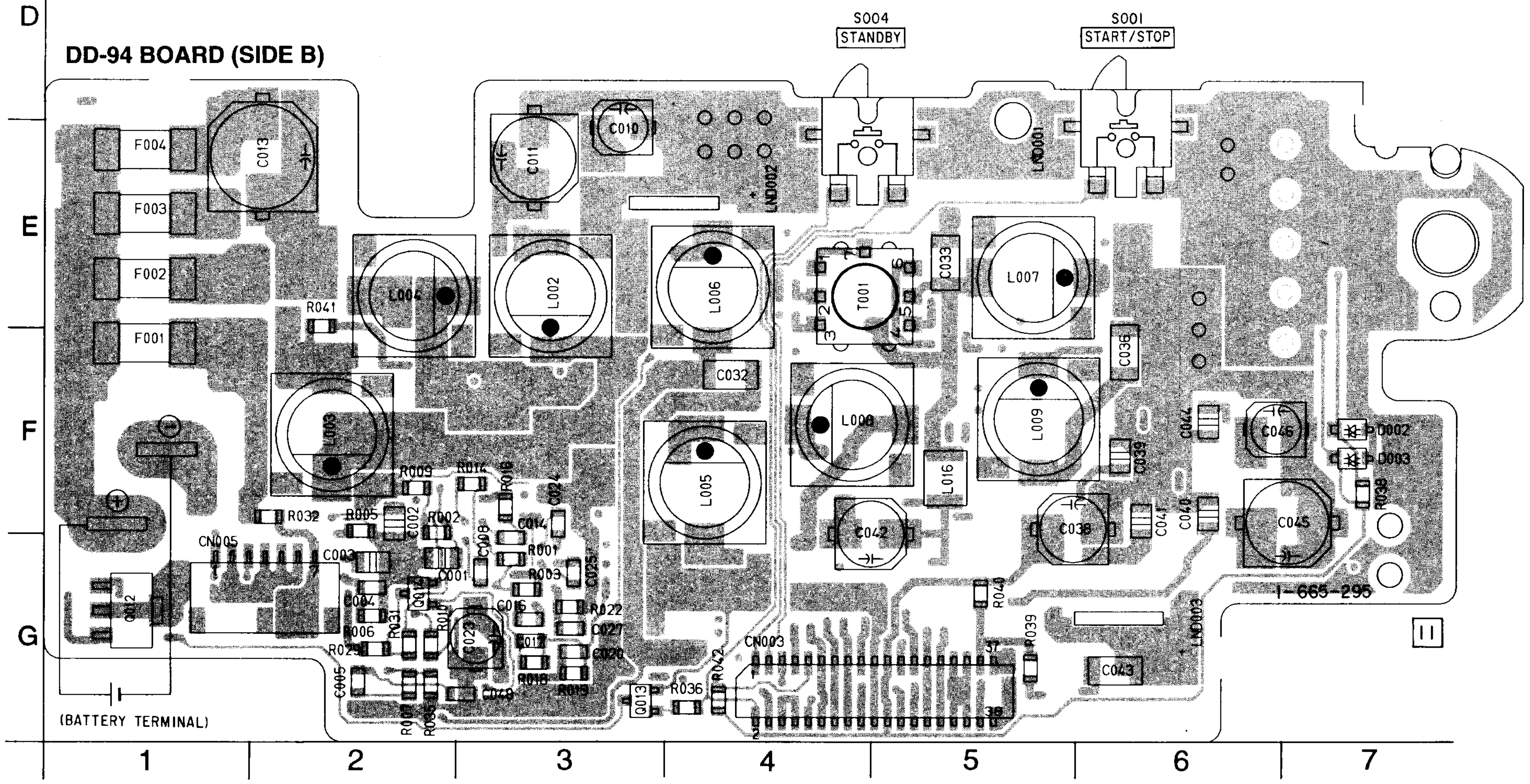
— Ref. No. DD-94 Board; 1,000 Series —

There are few cases that the part printed on this diagram isn't mounted in this model.

DD-94 BOARD (SIDE A)


A
B
C
R028
R008
R015
C007
C009
C019
16
17
1
64
IC001
32
33
48
49
C031
Q008
R024
R025
CL001
CL002
CL003
L010
L011
L013
L012
CL005
R023
S2
EJECT
BH001
CN006
Q006
C022
C034
L014
L015
Q007
L017
L018
CL004
C028
Q004
C037
Q001
D001
S3
ZOOM
5
R004
R045
R021
C026
C006
C047
C018
C015
R017
R020
C021
Q005
Q003
C035
C029
Q002
C030
R027
R033
R046
R037
Q010
R012
R011
R013
C049
C050
1-665-295
11

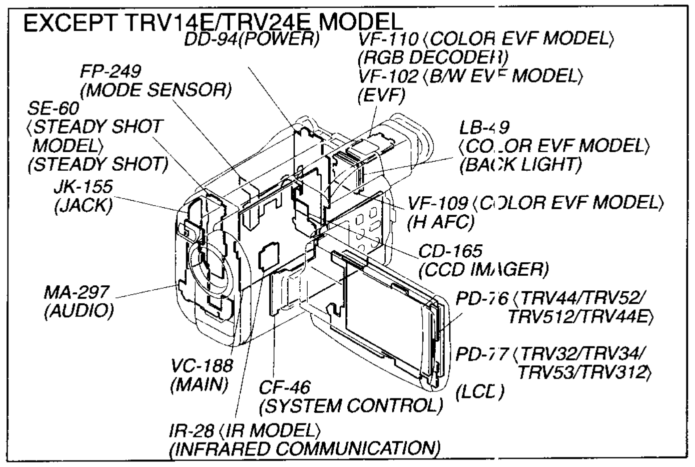
DD-94 BOARD (SIDE B)


D
E
F
G
S004
STANDBY
S001
START/STOP
F004
F003
F002
F001
C013
C010
C011
LND002
LND001
L004
L002
L006
T001
C033
L007
R041
C032
C036
L003
L008
L009
L005
L016
C044
C046
D002
D003
C039
R038
C042
C038
C041
C040
C045
R003
R014
R016
C024
R032
R005
C002
R002
C014
CN005
C003
R001
C004
C001
R003
C016
R022
C027
C025
C020
R006
R031
R010
C022
R029
C005
C017
R018
R019
C029
R040
R039
LND003
CN003
R042
Q013
R036
Q012
C043
37
38
1-665-295
11
(BATTERY TERMINAL)
1
2
3
4
5
6
7

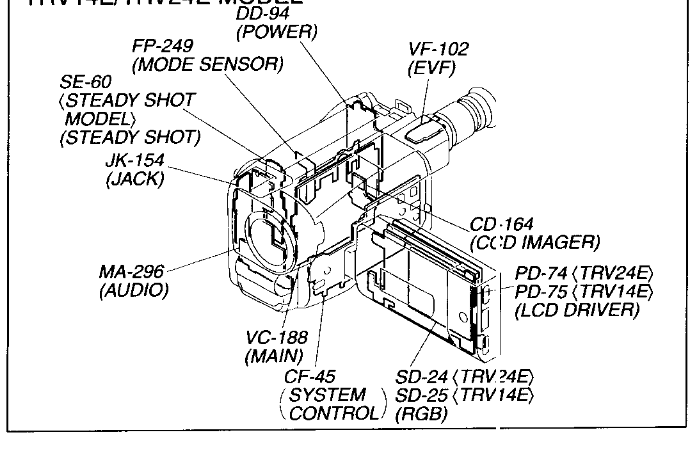
DD-94 BOARD

BH001	B-1	C044	F-6	Q006	B-4	R038	F-7
		C045	F-7	Q007	B-5	R040	G-5
C001	G-2	C046	F-6	Q008	B-4	R041	E-2
C002	F-2	C049	C-1	Q010	C-1	R042	G-4
C003	G-2	CN003	G-4	Q012	G-1	R045	B-2
C004	G-2	CN005	G-1	Q013	G-3	R046	C-7
C005	G-2			Q014	G-2		
C006	B-2	D001	B-5			S001	E-6
C007	A-2	D002	F-7	R001	G-3	S002	B-7
C008	G-3			R002	F-2	S004	E-4
C009	A-3	F001	F-1	R003	G-3		
C010	E-3	F003	E-1	R004	B-2	T001	E-4
C011	E-3	F004	E-1	R005	F-2		
C013	E-2			R006	G-2		
C014	G-3	IC001	A-3	R007	G-2		
C016	G-3			R008	A-2		
C018	B-3	L002	E-3	R009	F-2		
C019	A-3	L004	E-2	R010	G-2		
C022	B-3	L005	F-4	R013	C-2		
C024	F-3	L006	E-4	R014	F-3		
C025	G-3	L007	E-5	R015	A-3		
C026	B-3	L008	F-4	R016	F-3		
C027	G-3	L009	F-5	R017	C-3		
C028	B-4	L010	B-5	R018	G-3		
C029	C-5	L011	B-5	R019	G-3		
C031	A-4	L012	B-6	R020	B-3		
C032	F-4	L013	B-6	R021	B-3		
C033	E-5	L014	B-5	R022	G-3		
C034	B-4	L015	B-5	R023	B-7		
C035	C-5	L016	F-5	R024	B-5		
C036	F-6	L017	B-6	R025	B-5		
C037	B-5	L018	B-6	R027	C-6		
C038	F-5			R028	A-2		
C039	F-6	Q001	B-5	R029	G-2		
C040	F-6	Q002	C-5	R031	G-2		
C041	F-6	Q003	C-4	R033	C-7		
C042	F-5	Q004	B-4	R036	G-4		
C043	G-6	Q005	C-4	R037	C-7		

EXCEPT TRV14E/TRV24E MODEL


DD-94(POWER)
VF-110 ⟨COLOR EVF MODEL⟩
(RGB DECODER)
VF-102 ⟨B/W EVF MODEL⟩
(EVF)
FP-249
(MODE SENSOR)
SE-60
⟨STEADY SHOT
MODEL⟩
(STEADY SHOT)
JK-155
(JACK)
LB-49
⟨COLOR EVF MODEL⟩
(BACK LIGHT)
VF-109 ⟨COLOR EVF MODEL⟩
(H AFC)
CD-165
(CCD IMAGER)
MA-297
(AUDIO)
PD-76 ⟨TRV44/TRV52/
TRV512/TRV44E⟩
PD-77 ⟨TRV32/TRV34/
TRV53/TRV312⟩
(LCD)
VC-188
(MAIN)
CF-46
(SYSTEM CONTROL)
IR-28 ⟨IR MODEL⟩
(INFRARED COMMUNICATION)

TRV14E/TRV24E MODEL


DD-94
(POWER)
FP-249
(MODE SENSOR)
VF-102
(EVF)
SE-60
⟨STEADY SHOT
MODEL⟩
(STEADY SHOT)
JK-154
(JACK)
CD-164
(CCD IMAGER)
MA-296
(AUDIO)
PD-74 ⟨TRV24E⟩
PD-75 ⟨TRV14E⟩
(LCD DRIVER)
VC-188
(MAIN)
CF-45
⟨SYSTEM
CONTROL⟩
SD-24 ⟨TRV24E⟩
SD-25 ⟨TRV14E⟩
(RGB)

STEADY SHOT MODEL

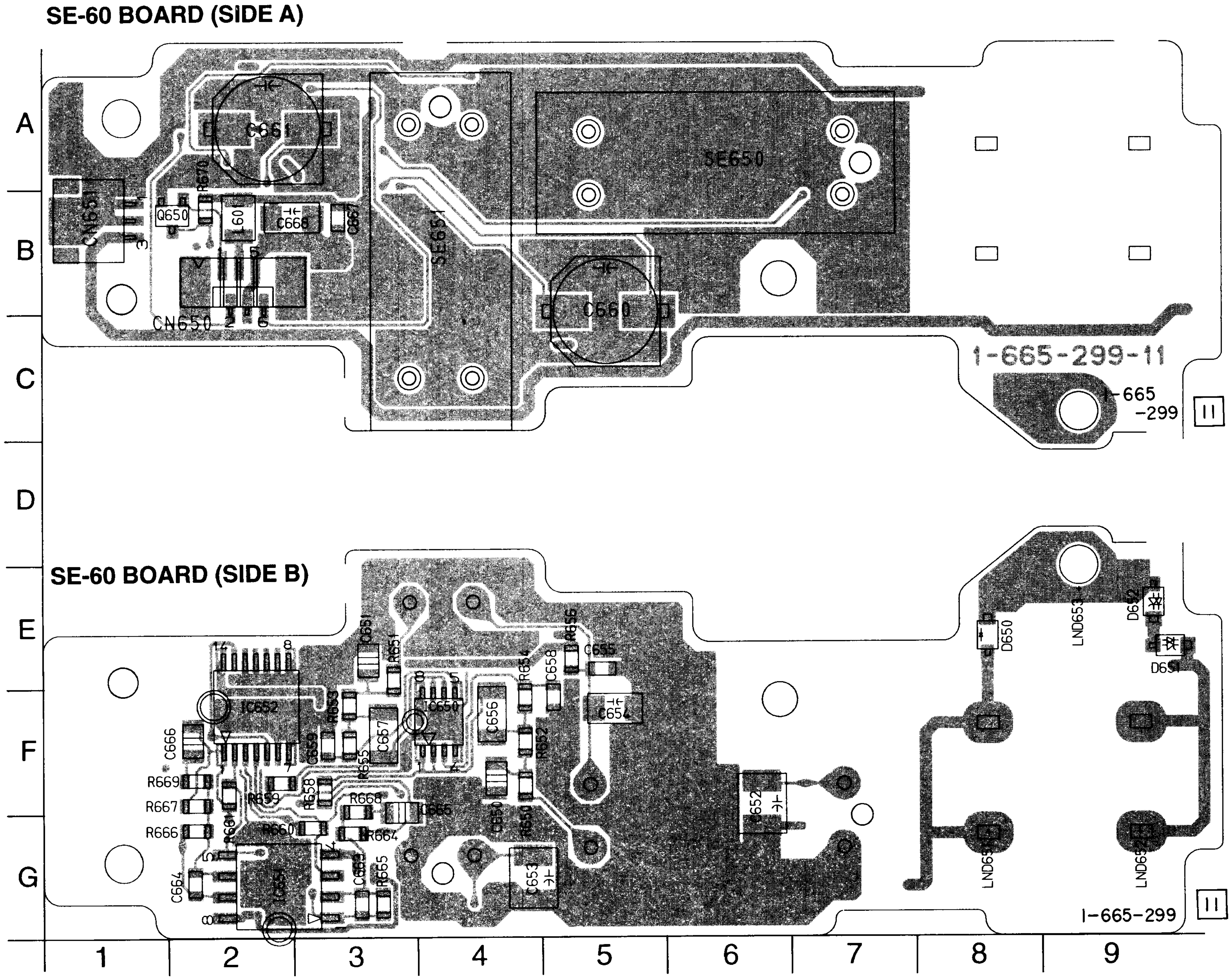
SE-60 (STEADY SHOT) PRINTED WIRING BOARD

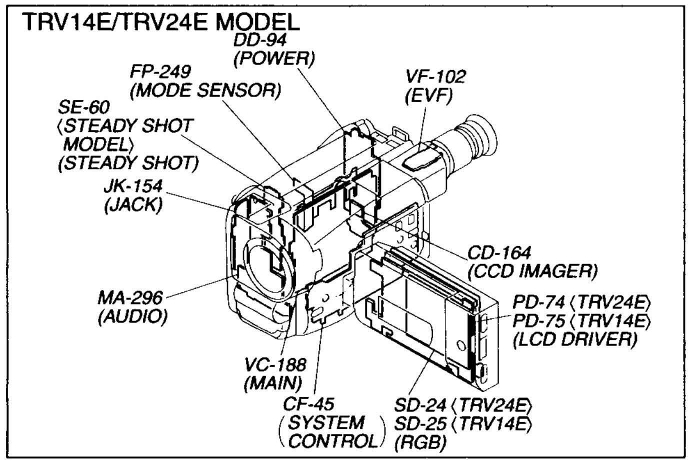
— Ref. No. SE-60 Board; 5,000 Series —

There are few cases that the part printed on this diagram isn't mounted in this model.

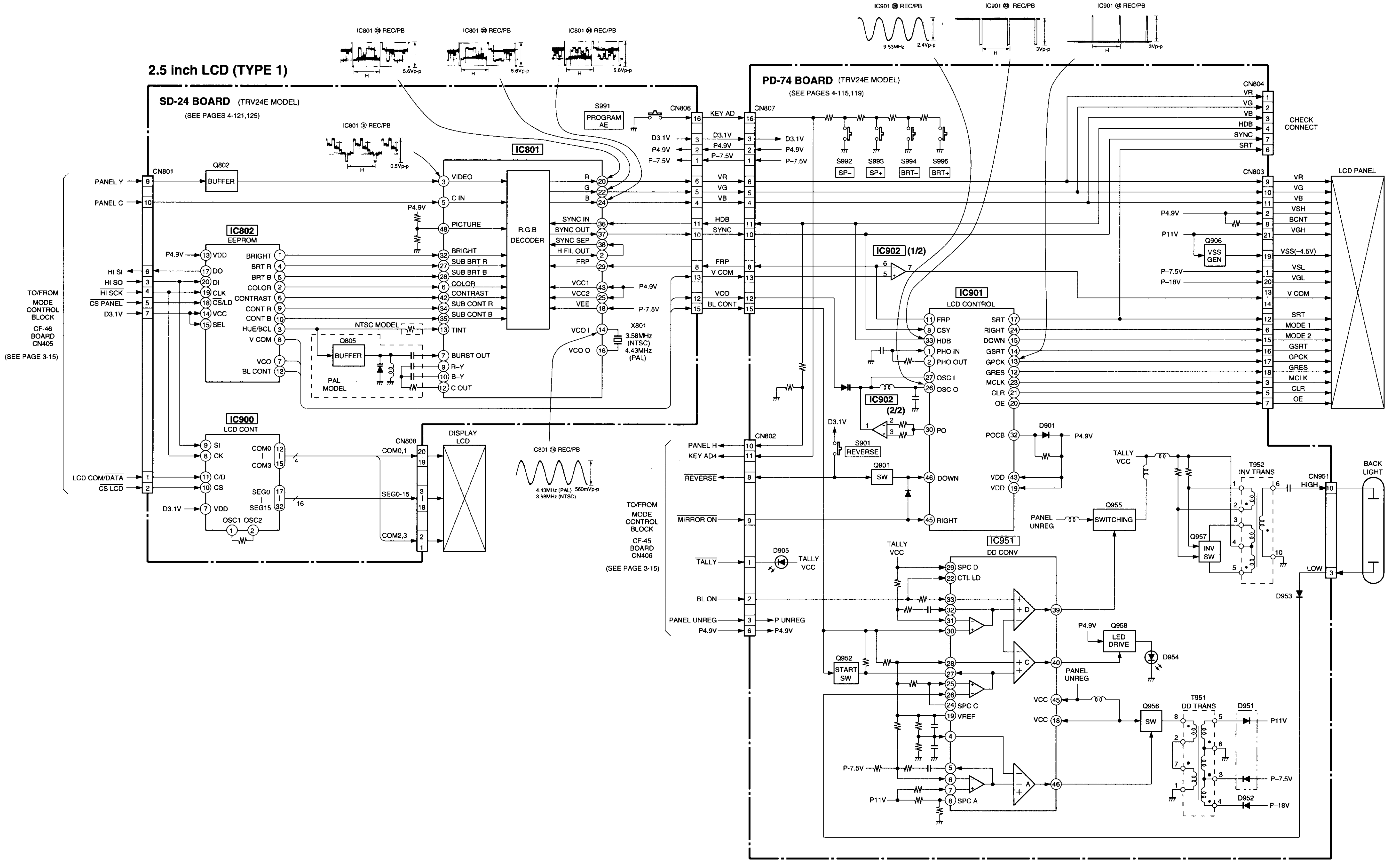
SE-60 BOARD

C650	F-4	IC652	F-2
C651	E-3		
C652	F-6	L601	B-2
C653	G-4		
C654	F-5	Q650	B-1
C655	E-5		
C656	F-4	R650	F-4
C657	F-3	R651	E-3
C658	F-5	R652	F-4
C659	F-3	R653	F-3
C660	B-5	R654	E-4
C661	A-2	R655	F-3
C663	G-3	R656	E-5
C664	G-2	R658	F-3
C665	F-3	R659	F-2
C666	F-2	R660	G-2
C667	B-3	R661	F-2
C668	B-3	R664	G-3
		R665	G-3
CN650	B-2	R666	G-2
CN651	B-1	R667	F-2
		R668	G-3
D650	E-8	R669	F-2
D651	E-9	R670	B-2
D652	E-9		
		SE650	A-6
IC650	F-4	SE651	B-4
IC651	G-2		

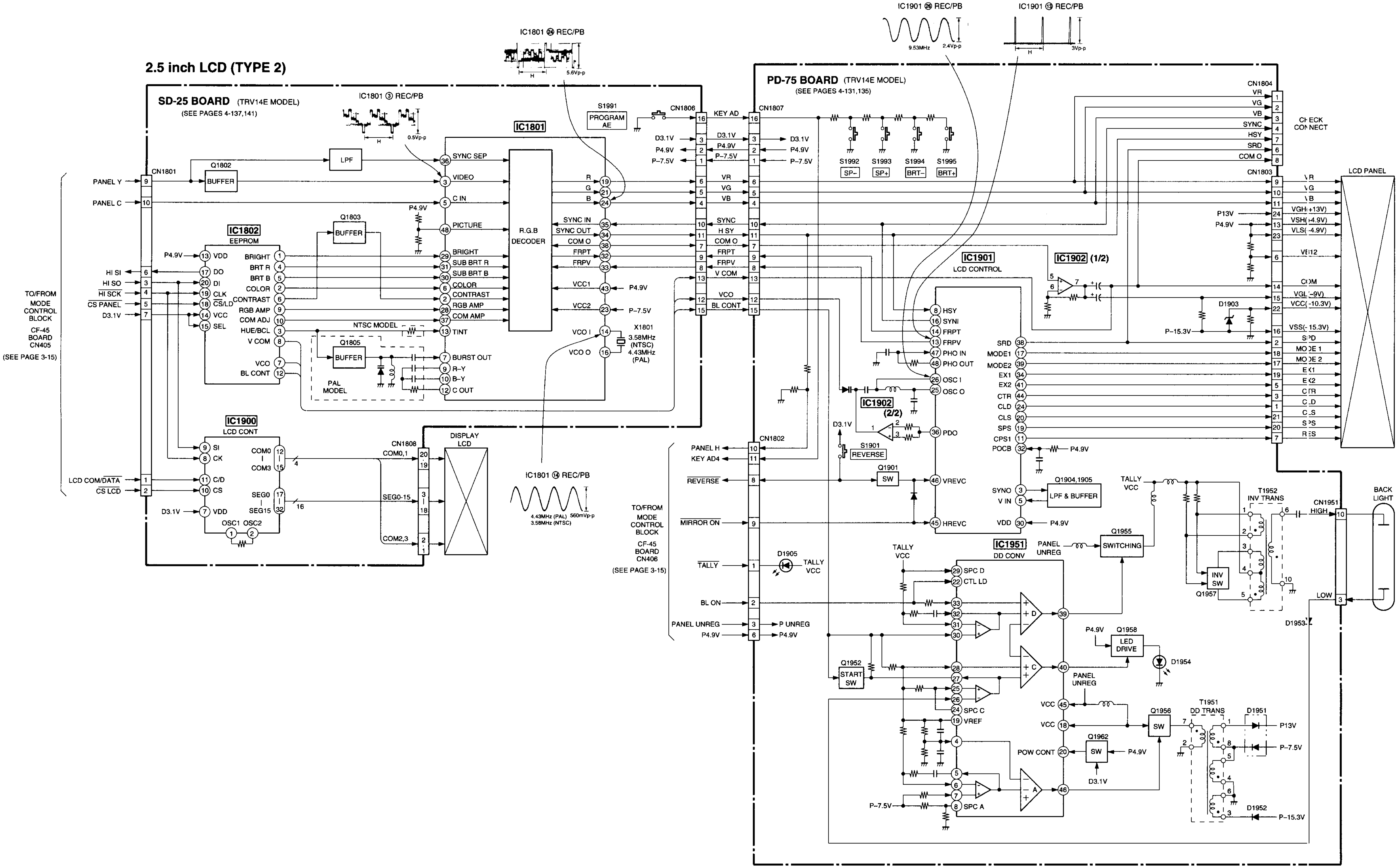

SE-60 BOARD (SIDE A)
SE-60 BOARD (SIDE B)
A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
C661
CN651
Q650
R670
C668
C667
CN650
SE651
SE650
C660
1-665-299-11
1-665
-299
11
IC652
C651
R651
R656
C655
R654
C658
IC650
C656
C654
C666
C657
R653
R655
R652
R669
R667
R666
R659
R658
R660
R668
R664
C665
C650
R650
C652
C664
IC651
C663
R665
C653
D650
D652
D651
LND653
1-665-299
11


TRV14E/TRV24E MODEL
DD-94 (POWER)
FP-249 (MODE SENSOR)
VF-102 (EVF)
SE-60 (STEADY SHOT MODEL) (STEADY SHOT)
JK-154 (JACK)
CD-164 (CCD IMAGER)
MA-296 (AUDIO)
PD-74 (TRV24E)
PD-75 (TRV14E)
(LCD DRIVER)
VC-188 (MAIN)
CF-45 (SYSTEM CONTROL)
SD-24 (TRV24E)
SD-25 (TRV14E)
(RGB)

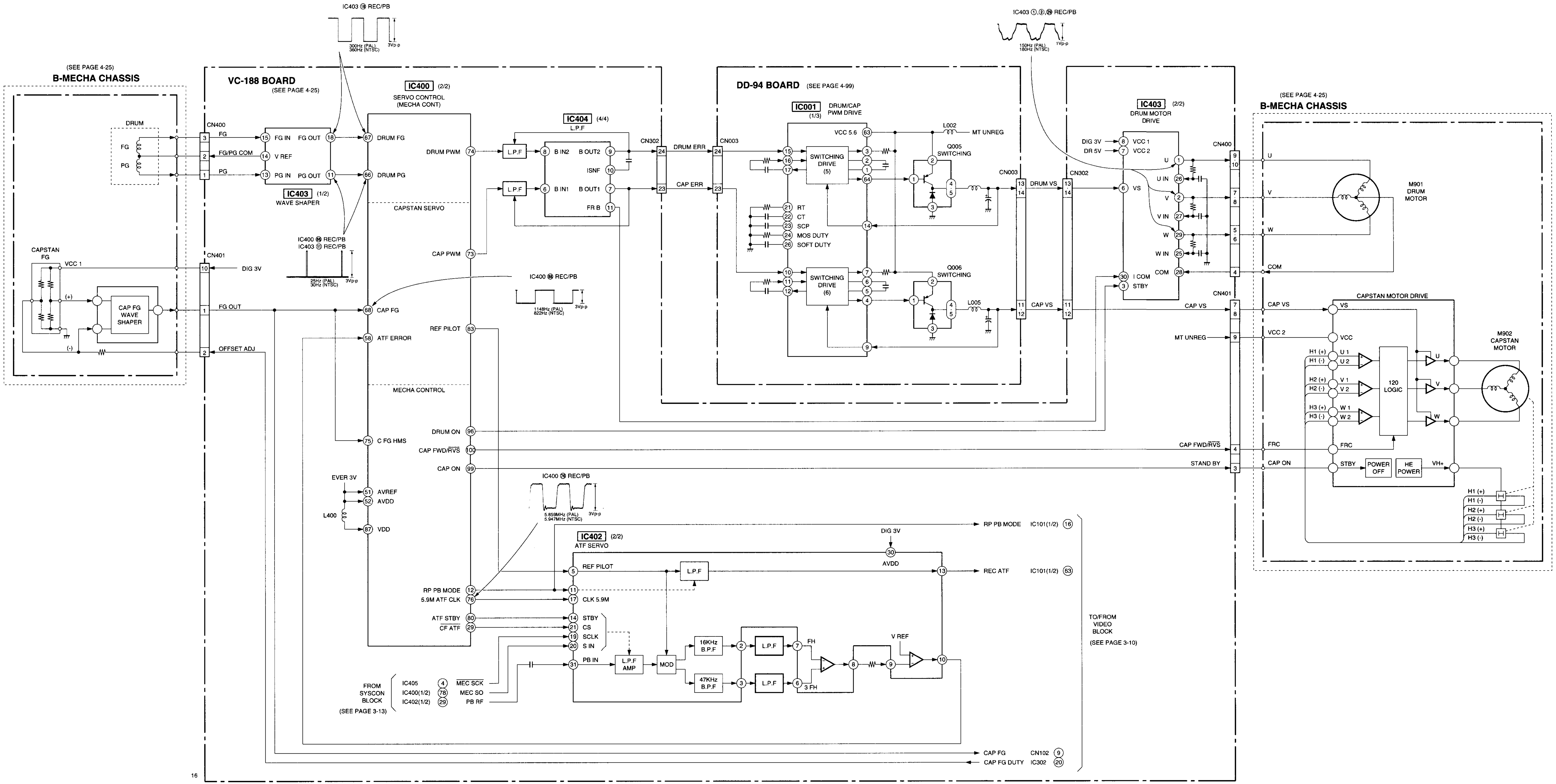
3-10. LCD (TYPE 1) BLOCK DIAGRAM


2.5 inch LCD (TYPE 1)
SD-24 BOARD (TRV24E MODEL)
(SEE PAGES 4-121,125)
PD-74 BOARD (TRV24E MODEL)
(SEE PAGES 4-115,119)
IC801 ⑳ REC/PB
IC801 ㉒ REC/PB
IC801 ㉔ REC/PB
IC801 ③ REC/PB
IC801 ⑭ REC/PB
IC901 ㉖ REC/PB
IC901 ㊴ REC/PB
IC901 ⑬ REC/PB
5.6Vp-p
0.5Vp-p
2.4Vp-p
3Vp-p
9.53MHz
4.43MHz (PAL) 560mVp-p
3.58MHz (NTSC)
IC801
R.G.B DECODER
VIDEO
C IN
PICTURE
BRIGHT
SUB BRT R
SUB BRT B
COLOR
CONTRAST
SUB CONT R
SUB CONT B
TINT
BURST OUT
R–Y
B–Y
C OUT
SYNC IN
SYNC OUT
SYNC SEP
H FIL OUT
FRP
VCC1
VCC2
VEE
VCO I
VCO O
X801
3.58MHz (NTSC)
4.43MHz (PAL)
NTSC MODEL
PAL MODEL
Q805 BUFFER
Q802 BUFFER
IC802 EEPROM
IC900 LCD CONT
COM0,1
COM2,3
SEG0-15
OSC1 OSC2
DISPLAY LCD
CN801
CN806
CN807
CN808
CN802
CN803
CN804
CN951
S991 PROGRAM AE
S992 SP–
S993 SP+
S994 BRT–
S995 BRT+
PANEL Y
PANEL C
HI SI
HI SO
HI SCK
CS PANEL
D3.1V
LCD COM/DATA
CS LCD
TO/FROM MODE CONTROL BLOCK CF-46 BOARD CN405 (SEE PAGE 3-15)
TO/FROM MODE CONTROL BLOCK CF-45 BOARD CN406 (SEE PAGE 3-15)
KEY AD
D3.1V
P4.9V
P–7.5V
VR
VG
VB
HDB
SYNC
FRP
V COM
VCO
BL CONT
PANEL H
KEY AD4
REVERSE
MIRROR ON
TALLY
BL ON
PANEL UNREG
P UNREG
CHECK CONNECT
SRT
LCD PANEL
VSH
BCNT
VGH
VSS(–4.5V)
VSL
VGL
MODE 1
MODE 2
GSRT
GPCK
GRES
MCLK
CLR
OE
Q906 VSS GEN
IC901 LCD CONTROL
CSY
PHO IN
PHO OUT
OSC I
OSC O
PO
DOWN
RIGHT
POCB
VDD
IC902 (1/2)
IC902 (2/2)
S901 REVERSE
Q901 SW
D901
D905
TALLY VCC
IC951 DD CONV
SPC D
CTL LD
SPC C
VREF
SPC A
Q952 START SW
Q955 SWITCHING
Q957 INV SW
T952 INV TRANS
Q956 SW
T951 DD TRANS
Q958 LED DRIVE
D954
D951
D952
D953
P11V
P–18V
HIGH
LOW
BACK LIGHT

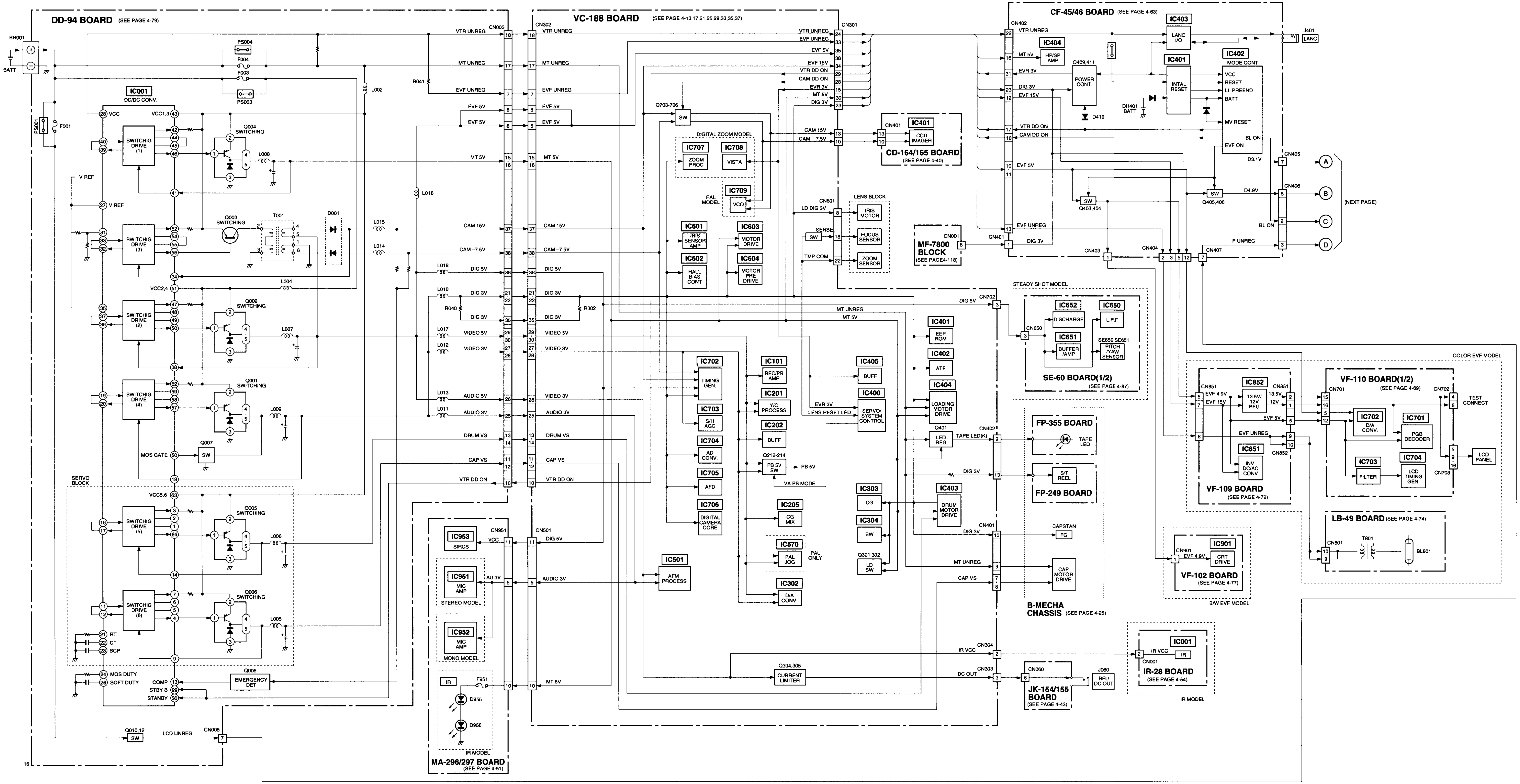
3-11. LCD (TYPE 2) BLOCK DIAGRAM


2.5 inch LCD (TYPE 2)
SD-25 BOARD (TRV14E MODEL)
(SEE PAGES 4-137,141)
IC1801 ③ REC/PB
0.5Vp-p
H
IC1801 ㉔ REC/PB
5.6Vp-p
IC1801 ⑭ REC/PB
4.43MHz (PAL)
3.58MHz (NTSC)
560mVp-p
IC1801
R.G.B DECODER
IC1802
EEPROM
IC1900
LCD CONT
Q1802
BUFFER
Q1803
BUFFER
Q1805
BUFFER
LPF
CN1801
CN1806
CN1808
S1991
PROGRAM AE
X1801
3.58MHz (NTSC)
4.43MHz (PAL)
NTSC MODEL
PAL MODEL
DISPLAY LCD
PANEL Y
PANEL C
HI SI
HI SO
HI SCK
CS PANEL
D3.1V
LCD COM/DATA
CS LCD
TO/FROM MODE CONTROL BLOCK
CF-45 BOARD CN405
(SEE PAGE 3-15)
SYNC SEP
VIDEO
C IN
PICTURE
BRIGHT
SUB BRT R
SUB BRT B
COLOR
CONTRAST
RGB AMP
COM AMP
TINT
BURST OUT
R–Y
B–Y
C OUT
SYNC IN
SYNC OUT
COM O
FRPT
FRPV
VCC1
VCC2
VCO I
VCO O
P4.9V
P–7.5V
VDD
DO
DI
CLK
VCC
CS/LD
SEL
BRT R
BRT B
HUE/BCL
V COM
VCO
BL CONT
SI
CK
C/D
CS
COM0
COM3
SEG0
SEG15
OSC1
OSC2
COM0,1
SEG0-15
COM2,3
KEY AD
VR
VG
VB
SYNC
H SY
V COM
PD-75 BOARD (TRV14E MODEL)
(SEE PAGES 4-131,135)
IC1901 ㉖ REC/PB
9.53MHz
2.4Vp-p
IC1901 ⑬ REC/PB
3Vp-p
CN1807
CN1802
CN1804
CN1803
CN1951
CHECK CONNECT
LCD PANEL
BACK LIGHT
S1992 SP–
S1993 SP+
S1994 BRT–
S1995 BRT+
IC1901
LCD CONTROL
IC1902 (1/2)
IC1902 (2/2)
IC1951
DD CONV
HSY
SYNI
FRPT
FRPV
PHO IN
PHO OUT
OSC I
OSC O
PDO
VREVC
HREVC
SRD
MODE1
MODE2
EX1
EX2
CTR
CLD
CLS
SPS
CPS1
POCB
SYNO
V IN
VDD
S1901
REVERSE
Q1901
SW
Q1904,1905
LPF & BUFFER
Q1955
SWITCHING
T1952
INV TRANS
Q1957
INV SW
HIGH
LOW
D1953
D1903
D1905
TALLY VCC
Q1958
LED DRIVE
D1954
PANEL UNREG
Q1952
START SW
Q1956
SW
T1951
DD TRANS
D1951
D1952
Q1962
SW
POW CONT
SPC D
CTL LD
SPC C
VREF
SPC A
P13V
P–15.3V
VGH(+13V)
VSH(+4.9V)
VLS(-4.9V)
VB12
COM
VGL(-9V)
VCC(-10.3V)
VSS(-15.3V)
SPD
MODE 1
MODE 2
EX1
EX2
CTR
CLD
CLS
SPS
RES
PANEL H
KEY AD4
REVERSE
MIRROR ON
TALLY
BL ON
PANEL UNREG
P UNREG
TO/FROM MODE CONTROL BLOCK
CF-45 BOARD CN406
(SEE PAGE 3-15)

3-12. SERVO BLOCK DIAGRAM

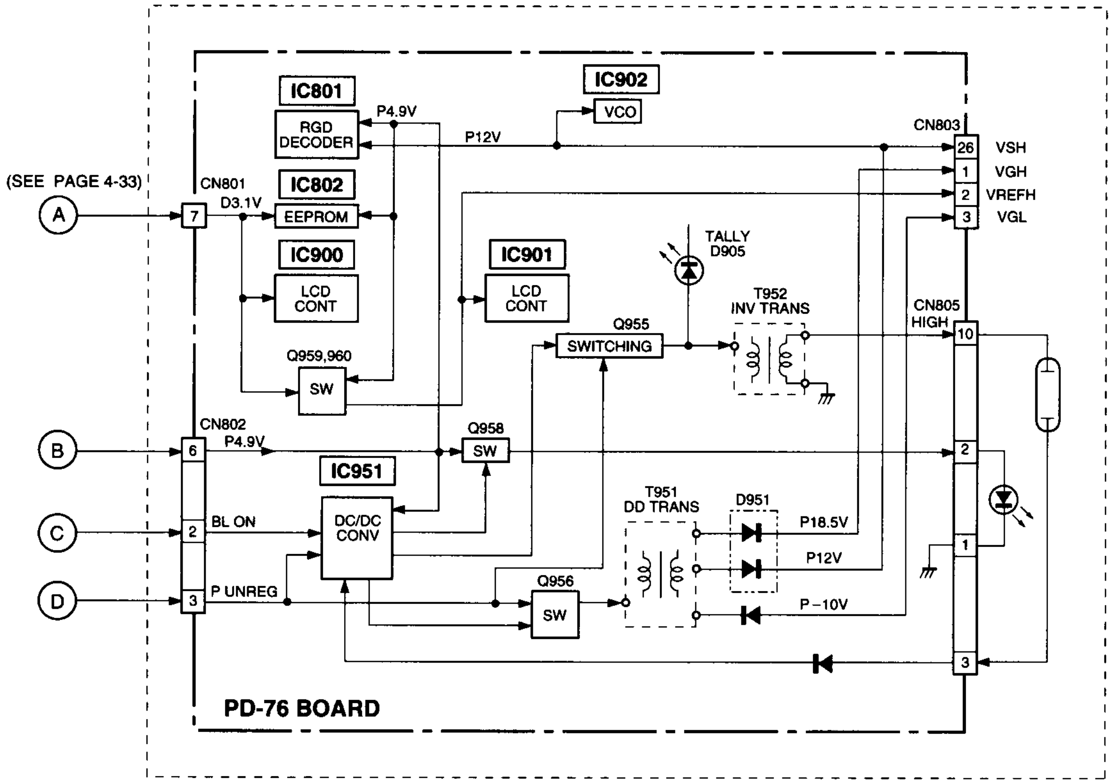

IC403 ⑱ REC/PB
300Hz (PAL)
360Hz (NTSC)
3Vp-p
IC403 ①,③,㉙ REC/PB
150Hz (PAL)
180Hz (NTSC)
1Vp-p
(SEE PAGE 4-25)
B-MECHA CHASSIS
DRUM
FG
PG
CAPSTAN FG
VCC 1
CAP FG WAVE SHAPER
VC-188 BOARD
(SEE PAGE 4-25)
CN400
FG
FG/PG COM
PG
CN401
DIG 3V
FG OUT
OFFSET ADJ
IC403 (1/2)
WAVE SHAPER
FG IN
FG OUT
V REF
PG IN
PG OUT
IC400 (2/2)
SERVO CONTROL (MECHA CONT)
DRUM FG
DRUM PG
DRUM PWM
CAPSTAN SERVO
CAP PWM
CAP FG
ATF ERROR
REF PILOT
MECHA CONTROL
DRUM ON
C FG HMS
CAP FWD/RVS
CAP ON
EVER 3V
AVREF
AVDD
L400
VDD
RP PB MODE
5.9M ATF CLK
ATF STBY
CF ATF
IC400 ㊳ REC/PB
IC403 ⑪ REC/PB
25Hz (PAL)
30Hz (NTSC)
3Vp-p
IC400 ㊳ REC/PB
1148Hz (PAL)
822Hz (NTSC)
3Vp-p
IC400 ⑯ REC/PB
5.859MHz (PAL)
5.947MHz (NTSC)
3Vp-p
IC404 (4/4)
L.P.F
B IN2
B OUT2
ISNF
B IN1
B OUT1
FR B
CN302
DRUM ERR
CAP ERR
DD-94 BOARD (SEE PAGE 4-99)
CN003
IC001 (1/3)
DRUM/CAP PWM DRIVE
VCC 5.6
SWITCHING DRIVE (5)
SWITCHING DRIVE (6)
RT
CT
SCP
MOS DUTY
SOFT DUTY
L002
MT UNREG
Q005 SWITCHING
Q006 SWITCHING
L005
CN003
DRUM VS
CAP VS
CN302
IC403 (2/2)
DRUM MOTOR DRIVE
DIG 3V
DR 5V
VCC 1
VCC 2
VS
U
U IN
V
V IN
W
W IN
COM
I COM
STBY
CN400
CN401
CAP VS
MT UNREG
CAP FWD/RVS
STAND BY
M901 DRUM MOTOR
CAPSTAN MOTOR DRIVE
VCC 2
VCC
H1 (+)
H1 (-)
H2 (+)
H2 (-)
H3 (+)
H3 (-)
U 1
U 2
V 1
V 2
W 1
W 2
120 LOGIC
FRC
CAP ON
STBY
POWER OFF
HE POWER
VH+
M902 CAPSTAN MOTOR
IC402 (2/2)
ATF SERVO
DIG 3V
AVDD
REF PILOT
L.P.F
CLK 5.9M
CS
SCLK
S IN
PB IN
L.P.F AMP
MOD
16KHz B.P.F
47KHz B.P.F
FH
3 FH
V REF
RP PB MODE IC101(1/2) ⑯
REC ATF IC101(1/2) ㊸
TO/FROM VIDEO BLOCK
(SEE PAGE 3-10)
FROM SYSCON BLOCK
(SEE PAGE 3-13)
IC405 ④ MEC SCK
IC400(1/2) ㊿ MEC SO
IC402(1/2) ㉙ PB RF
CAP FG CN102 ⑨
CAP FG DUTY IC302 ⑳
16

3-13. POWER (1) BLOCK DIAGRAM

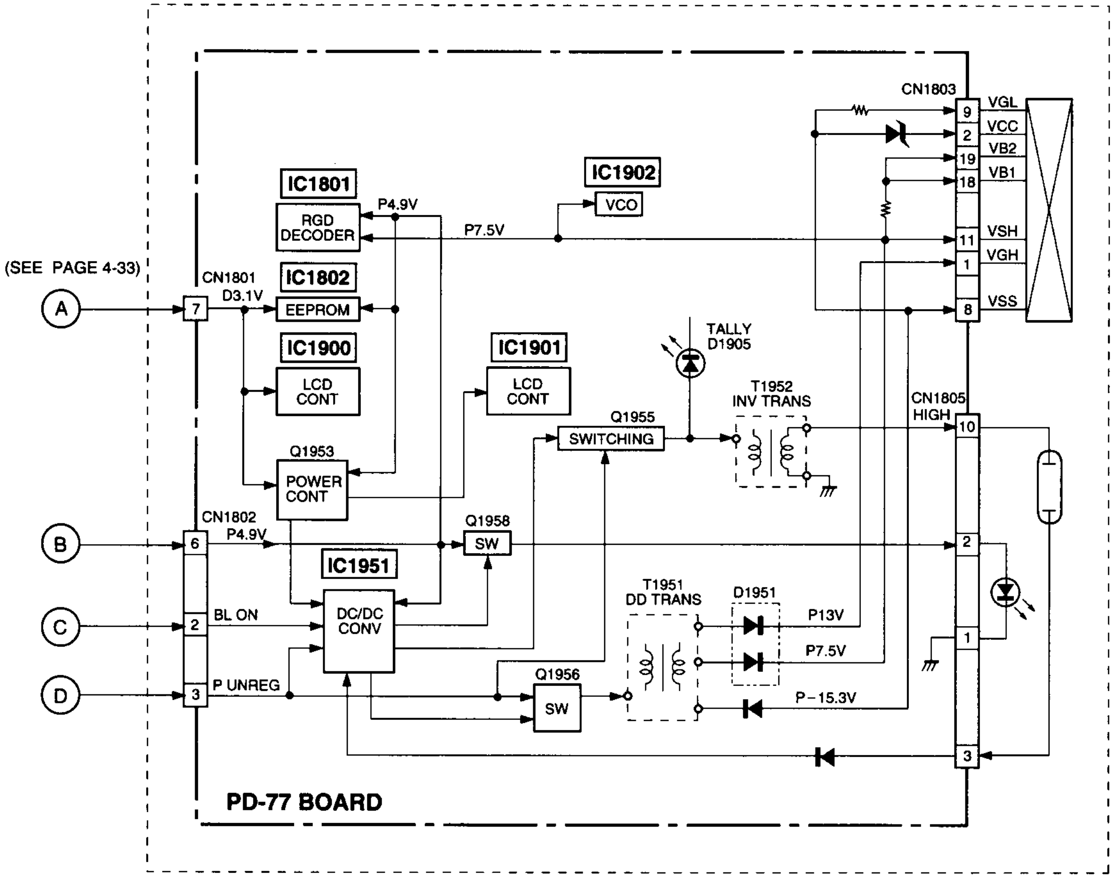

DD-94 BOARD (SEE PAGE 4-79)
BH001
BATT
PS004
F004
F003
PS003
PS001
F001
IC001
DC/DC CONV.
SWITCHIG DRIVE (1)
SWITCHIG DRIVE (3)
SWITCHIG DRIVE (2)
SWITCHIG DRIVE (4)
SWITCHIG DRIVE (5)
SWITCHIG DRIVE (6)
SERVO BLOCK
Q004 SWITCHING
Q003 SWITCHING
Q002 SWITCHING
Q001 SWITCHING
Q005 SWITCHING
Q006 SWITCHING
Q007 SW
Q008 EMERGENCY DET
Q010,12 SW
T001
D001
L002
L004
L005
L006
L007
L008
L009
L010
L011
L012
L013
L014
L015
L016
L017
L018
R040
R041
V REF
MOS GATE
RT
CT
SCP
MOS DUTY
SOFT DUTY
COMP
STBY B
STANBY
LCD UNREG
CN003
CN005
VTR UNREG
MT UNREG
EVF UNREG
EVF 5V
MT 5V
CAM 15V
CAM -7.5V
DIG 5V
DIG 3V
VIDEO 5V
VIDEO 3V
AUDIO 5V
AUDIO 3V
DRUM VS
CAP VS
VTR DD ON
VC-188 BOARD (SEE PAGE 4-13,17,21,25,29,33,35,37)
CN302
CN301
CN501
CN601
CN702
CN402
CN401
CN304
CN303
R302
Q703-706 SW
DIGITAL ZOOM MODEL
IC707 ZOOM PROC
IC708 VISTA
IC709 VCO
PAL MODEL
IC601 IRIS SENSOR AMP
IC602 HALL BIAS CONT
IC603 MOTOR DRIVE
IC604 MOTOR PRE DRIVE
LENS BLOCK
IRIS MOTOR
FOCUS SENSOR
ZOOM SENSOR
SENSE
TMP COM
LD DIG 3V
IC702 TIMING GEN.
IC703 S/H AGC
IC704 A/D CONV.
IC705 AFD
IC706 DIGITAL CAMERA CORE
IC101 REC/PB AMP
IC201 Y/C PROCESS
IC202 BUFF
Q212-214 PB 5V SW
PB 5V
VA PB MODE
IC205 CG MIX
IC570 PAL JOG
PAL ONLY
IC302 D/A CONV.
IC501 AFM PROCESS
IC405 BUFF
IC400 SERVO/ SYSTEM CONTROL
EVR 3V
LENS RESET LED
IC303 CG
IC304 SW
Q301,302 LD SW
IC401 EEP ROM
IC402 ATF
IC404 LOADING MOTOR DRIVE
Q401 LED REG
IC403 DRUM MOTOR DRIVE
Q304,305 CURRENT LIMITER
IR VCC
DC OUT
TAPE LED(K)
CAPSTAN
CAP VS
MA-296/297 BOARD (SEE PAGE 4-51)
CN951
IC953 SIRCS
IC951 MIC AMP
STEREO MODEL
IC952 MIC AMP
MONO MODEL
AU 3V
F951
IR
D955
D956
IR MODEL
CD-164/165 BOARD (SEE PAGE 4-40)
IC401 CCD IMAGER
MF-7800 BLOCK (SEE PAGE4-118)
CN001
CF-45/46 BOARD (SEE PAGE 4-63)
IC403 LANC I/O
J401 LANC
IC404 HP/SP AMP
Q409,411 POWER CONT.
D410
IC401 INTAL RESET
IC402 MODE CONT
VCC
RESET
LI PREEND
BATT
MV RESET
EVF ON
BL ON
DH401 BATT
Q403,404 SW
Q405,406 SW
CN404
CN403
CN405
CN406
CN407
D3.1V
D4.9V
P UNREG
(NEXT PAGE)
A
B
C
D
STEADY SHOT MODEL
SE-60 BOARD(1/2) (SEE PAGE 4-87)
CN650
IC652 DISCHARGE
IC650 L.P.F
IC651 BUFFER /AMP
SE650,SE651 PITCH /YAW SENSOR
FP-355 BOARD
TAPE LED
FP-249 BOARD
S/T REEL
FG
CAP MOTOR DRIVE
B-MECHA CHASSIS (SEE PAGE 4-25)
COLOR EVF MODEL
VF-109 BOARD (SEE PAGE 4-72)
CN851
CN852
IC852 13.5V/ 12V REG
IC851 INV DC/AC CONV
EVF 4.9V
EVF 15V
VF-110 BOARD(1/2) (SEE PAGE 4-69)
CN701
CN702
CN703
IC702 D/A CONV.
IC701 PGB DECODER
IC703 FILTER
IC704 LCD TIMING GEN.
TEST CONNECT
LCD PANEL
LB-49 BOARD (SEE PAGE 4-74)
CN801
T801
BL801
VF-102 BOARD (SEE PAGE 4-77)
CN901
IC901 CRT DRIVE
B/W EVF MODEL
IR-28 BOARD (SEE PAGE 4-54)
CN001
IC001 IR
IR MODEL
JK-154/155 BOARD (SEE PAGE 4-43)
CN060
J060 RFU DC OUT

3-14. POWER (2) BLOCK DIAGRAM

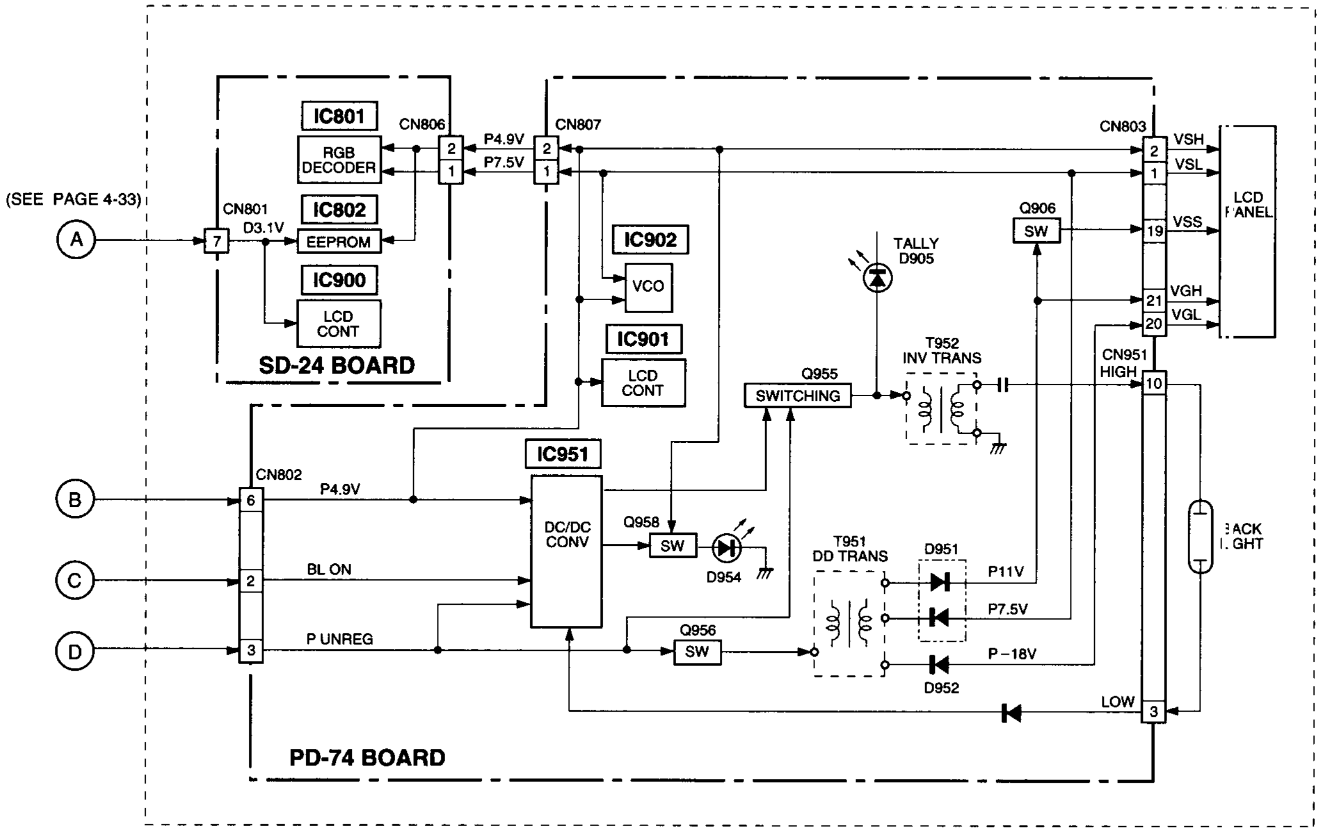
3.5 inch LCD (TYPE 4)
TRV34/TRV44/TRV52/TRV512/TRV44E MODEL


(SEE PAGE 4-33)
A
B
C
D
CN801
D3.1V
7
CN802
P4.9V
6
BL ON
2
P UNREG
3
IC801
RGD DECODER
P4.9V
P12V
IC802
EEPROM
IC900
LCD CONT
Q959,960
SW
IC901
LCD CONT
IC902
VCO
Q958
SW
IC951
DC/DC CONV
Q955
SWITCHING
TALLY D905
T952 INV TRANS
Q956
SW
T951 DD TRANS
D951
P18.5V
P12V
P-10V
CN803
26 VSH
1 VGH
2 VREFH
3 VGL
CN805 HIGH
10
2
1
3
PD-76 BOARD

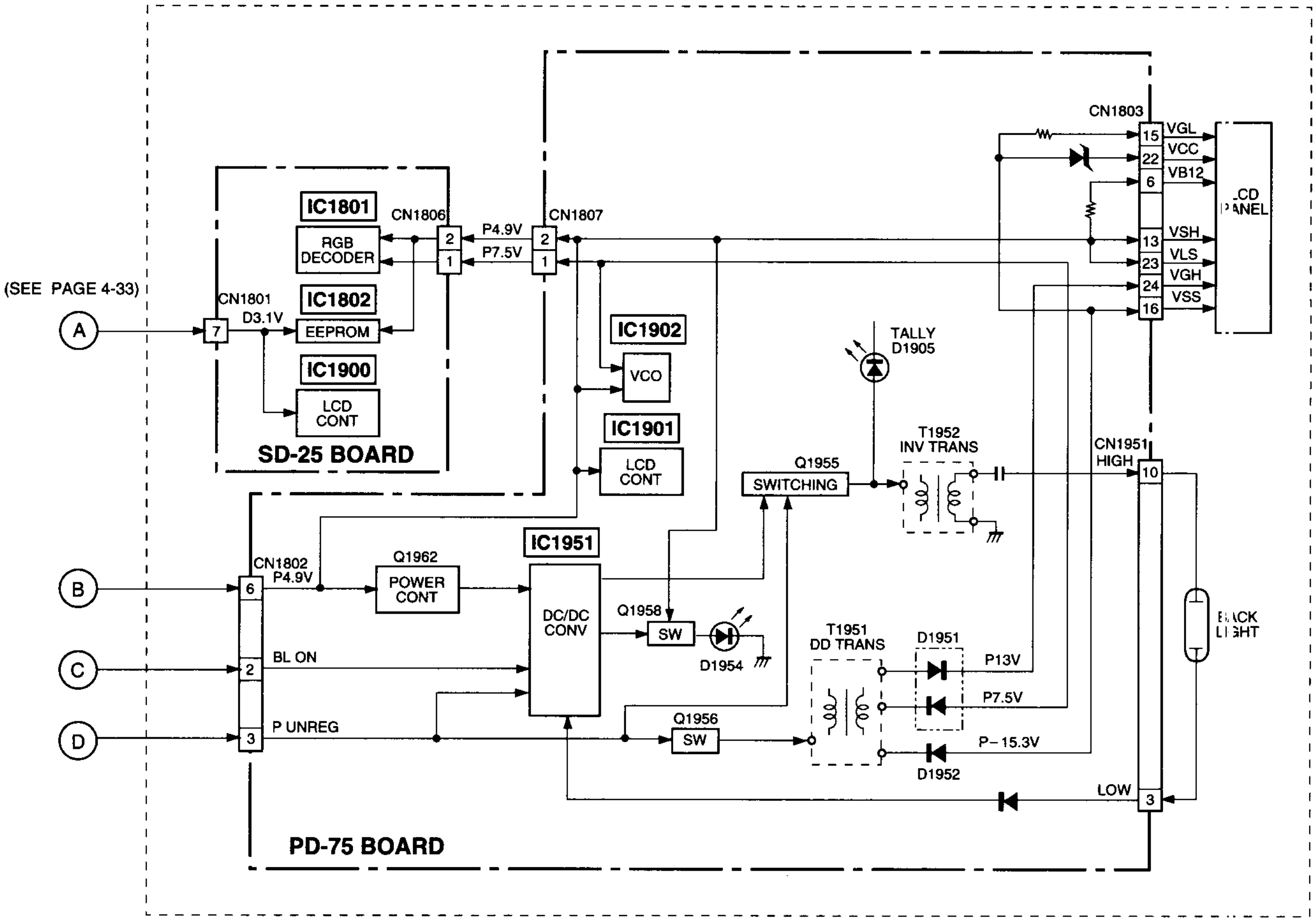
3.0 inch LCD (TYPE 3)
TRV32/TRV53/TRV312 MODEL


(SEE PAGE 4-33)
A
B
C
D
CN1801
D3.1V
7
CN1802
P4.9V
6
BL ON
2
P UNREG
3
IC1801
RGD DECODER
P4.9V
P7.5V
IC1802
EEPROM
IC1900
LCD CONT
Q1953
POWER CONT
IC1901
LCD CONT
IC1902
VCO
Q1958
SW
IC1951
DC/DC CONV
Q1955
SWITCHING
TALLY D1905
T1952 INV TRANS
Q1956
SW
T1951 DD TRANS
D1951
P13V
P7.5V
P-15.3V
CN1803
9 VGL
2 VCC
19 VB2
18 VB1
11 VSH
1 VGH
8 VSS
CN1805 HIGH
10
2
1
3
PD-77 BOARD

2.5 inch LCD (TYPE 1)
TRV24E MODEL

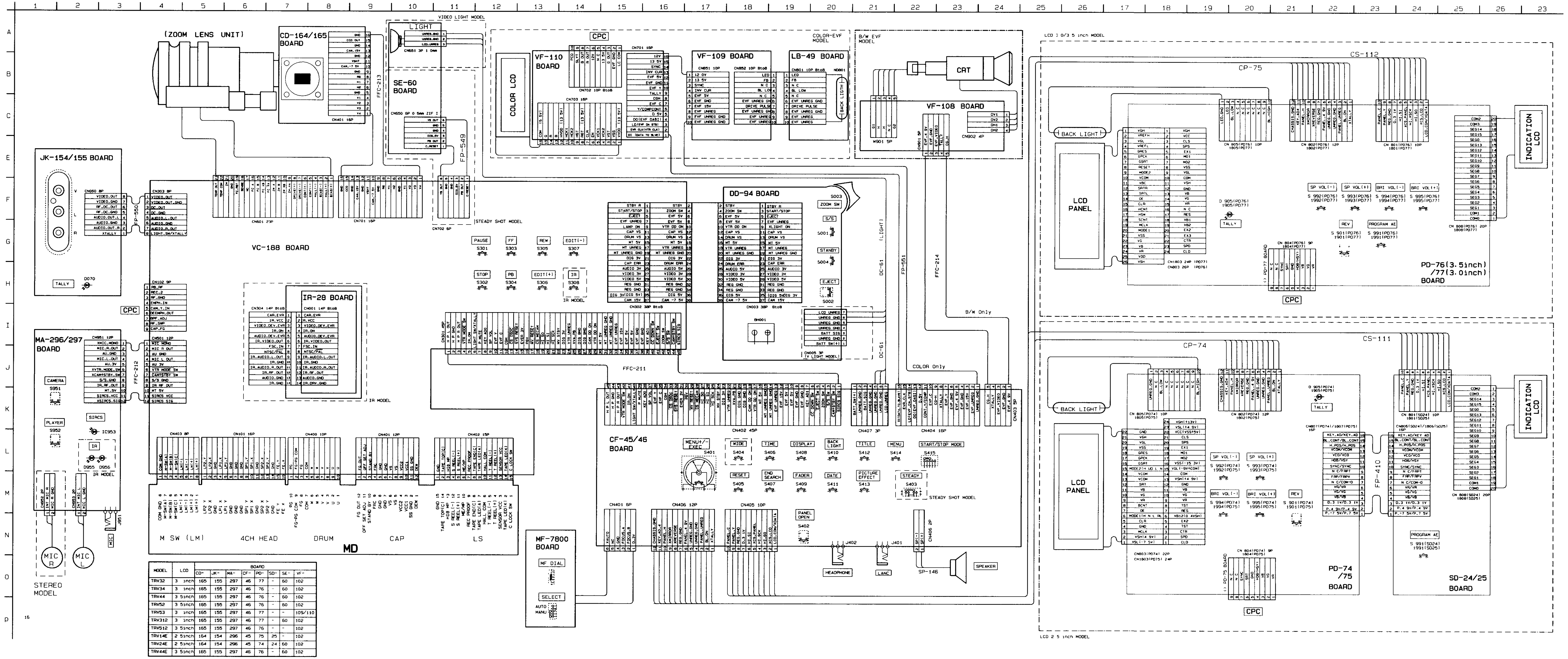

(SEE PAGE 4-33)
A
B
C
D
IC801
RGB DECODER
IC802
EEPROM
IC900
LCD CONT
SD-24 BOARD
CN801
D3.1V
7
CN806
CN807
P4.9V
P7.5V
2
1
IC902
VCO
IC901
LCD CONT
CN802
P4.9V
BL ON
P UNREG
6
2
3
IC951
DC/DC CONV
Q958
SW
D954
Q956
SW
Q955
SWITCHING
TALLY
D905
T952
INV TRANS
T951
DD TRANS
D951
D952
P11V
P7.5V
P−18V
Q906
SW
CN803
VSH
VSL
VSS
VGH
VGL
2
1
19
21
20
LCD PANEL
CN951
HIGH
10
LOW
3
BACK LIGHT
PD-74 BOARD

2.5 inch LCD (TYPE 2)
TRV14E MODEL


(SEE PAGE 4-33)
A
B
C
D
IC1801
RGB DECODER
IC1802
EEPROM
IC1900
LCD CONT
SD-25 BOARD
CN1801
D3.1V
7
CN1806
CN1807
P4.9V
P7.5V
2
1
IC1902
VCO
IC1901
LCD CONT
CN1802
P4.9V
BL ON
P UNREG
6
2
3
Q1962
POWER CONT
IC1951
DC/DC CONV
Q1958
SW
D1954
Q1956
SW
Q1955
SWITCHING
TALLY
D1905
T1952
INV TRANS
T1951
DD TRANS
D1951
D1952
P13V
P7.5V
P−15.3V
CN1803
VGL
VCC
VB12
VSH
VLS
VGH
VSS
15
22
6
13
23
24
16
LCD PANEL
CN1951
HIGH
10
LOW
3
BACK LIGHT
PD-75 BOARD

SECTION 4
PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

4-1. FRAME SCHEMATIC DIAGRAM


(ZOOM LENS UNIT)
CD-164/165 BOARD
VIDEO LIGHT MODEL
LIGHT
SE-60 BOARD
CPC
VF-110 BOARD
COLOR LCD
VF-109 BOARD
LB-49 BOARD
COLOR-EVF MODEL
B/W EVF MODEL
CRT
VF-108 BOARD
FFC-213
FP-549
JK-154/155 BOARD
VC-188 BOARD
TALLY
STEADY SHOT MODEL
DD-94 BOARD
IR-28 BOARD
IR MODEL
MA-296/297 BOARD
CAMERA
PLAYER
FFC-212
FFC-211
DC-61
FP-551
FP-214
B/W Only
COLOR Only
CF-45/46 BOARD
MF-7800 BOARD
M SW (LM)
4CH HEAD
DRUM
CAP
LS
MD
MIC
STEREO MODEL
HEADPHONE
LANC
SP-146
SPEAKER
LCD 3/3.5 inch MODEL
CS-112
CP-75
BACK LIGHT
LCD PANEL
INDICATION LCD
PD-76(3.5inch) /77(3.0inch) BOARD
CS-111
CP-74
FP-410
PD-74 /75 BOARD
SD-24/25 BOARD
LCD 2.5 inch MODEL

MODEL	LCD	BOARD							
		CD-	JK-	MA-	CF-	PD-	SD-	SE-	VF-
TRV32	3 inch	165	155	297	46	77	-	60	102
TRV34	3 inch	165	155	297	46	76	-	60	102
TRV44	3 5inch	165	155	297	46	76	-	60	102
TRV52	3 5inch	165	155	297	46	76	-	60	102
TRV53	3 inch	165	155	297	46	77	-	-	109/110
TRV312	3 inch	165	155	297	46	77	-	60	102
TRV512	3 5inch	165	155	297	46	76	-	-	102
TRV14E	2 5inch	164	154	296	45	75	25	-	102
TRV24E	2 5inch	164	154	296	45	74	24	60	102
TRV44E	3 5inch	165	155	297	46	76	-	60	102

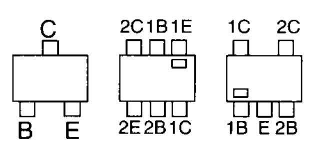
4-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

- **For printed wiring boards.**
- : Pattern from the side which enables seeing. (The other layers' patterns are not indicated.)
- ● : Through hole is omitted.
- Printed wiring board which has four layers structure but inner two layers' patterns are omitted

Caution :
SIDE A : The pattern face side which is seen when the upper case is opened.
SIDE B The opposite pattern face side to the pattern seen when the upper case is opened.

- Chip parts (transistor)


C
B
E
2C1B1E
2E2B1C
1C
2C
1B E 2B

C· Collector
B. Base
E. Emitter

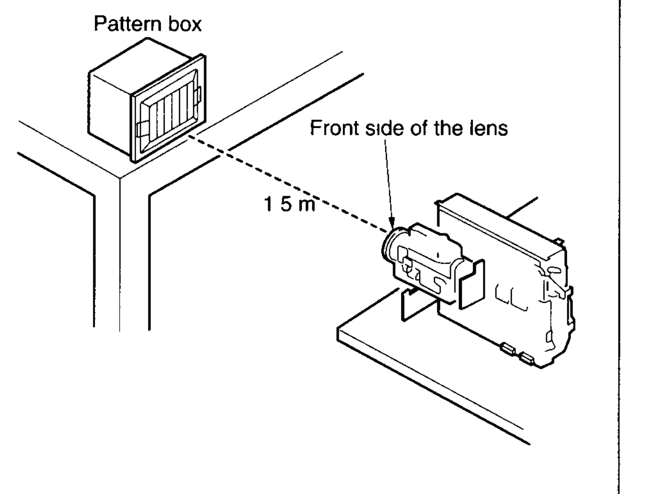
- **For schematic diagrams.**
- Caution when replacing chip parts
  New parts must be attached after removal of chip.
  Be careful not to heat the minus side of tantalum capacitor, because it is damaged by the heat.
- All resistor are in ohms, 1/4W unless otherwise noted. Chip resistor are 1/10W unless otherwise noted
  kΩ 1000Ω, MΩ, 1000kΩ.
- All capacitors are in μF unless otherwise noted. pF · μ μF 50V or less are not indicated except for electrolytics and tantalums
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- · nonflammable resistor
- : fusible resistor.
- ▭ : panel designation.
- △ : internal component.
- ▭ : adjustment for repair *
- ━━ : B+Line. *
- ▬▬▬ : B+Line. *
- ⇛ IN/OUT direction of (+,–) B LINE. *
- Circled numbers refer to waveforms. *
- Signal name
  XEDIT → $\overline{\text{EDIT}}$ PB/XREC → PB/$\overline{\text{REC}}$

Note : Les composants identifiés par une marque ⚠ sont critiques pour la sécurité
Ne les remplacer que par une pièce portant le numéro spécifie

Note : The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- Voltages and waveforms are measured between the measurement points and ground when camera shoots color bar chart of pattern box They are reference values * and reference waveforms.
  (VOM of DC 10 MΩ input impedance is used.)
- Voltage values change depending upon input impedance of VOM used.)

1. Connection


Pattern box
Front side of the lens
1 5 m

2. Adjust the distance so that the output waveform of Fig. a and the Fig b can be obtain.

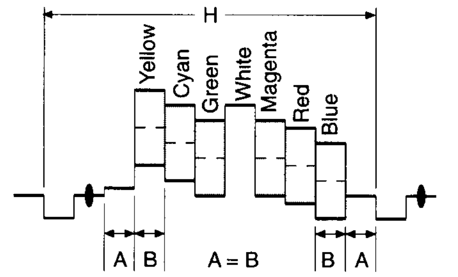

H
Yellow
Cyan
Green
White
Magenta
Red
Blue
A
B
A = B
B
A

Fig a (Video output terminal output waveform)

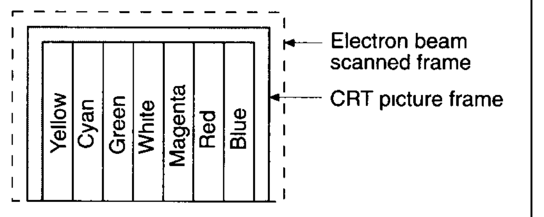

Yellow
Cyan
Green
White
Magenta
Red
Blue
Electron beam scanned frame
CRT picture frame

Fig.b (Picture on monitor TV)

When indicating parts by reference number, pleas include the board name

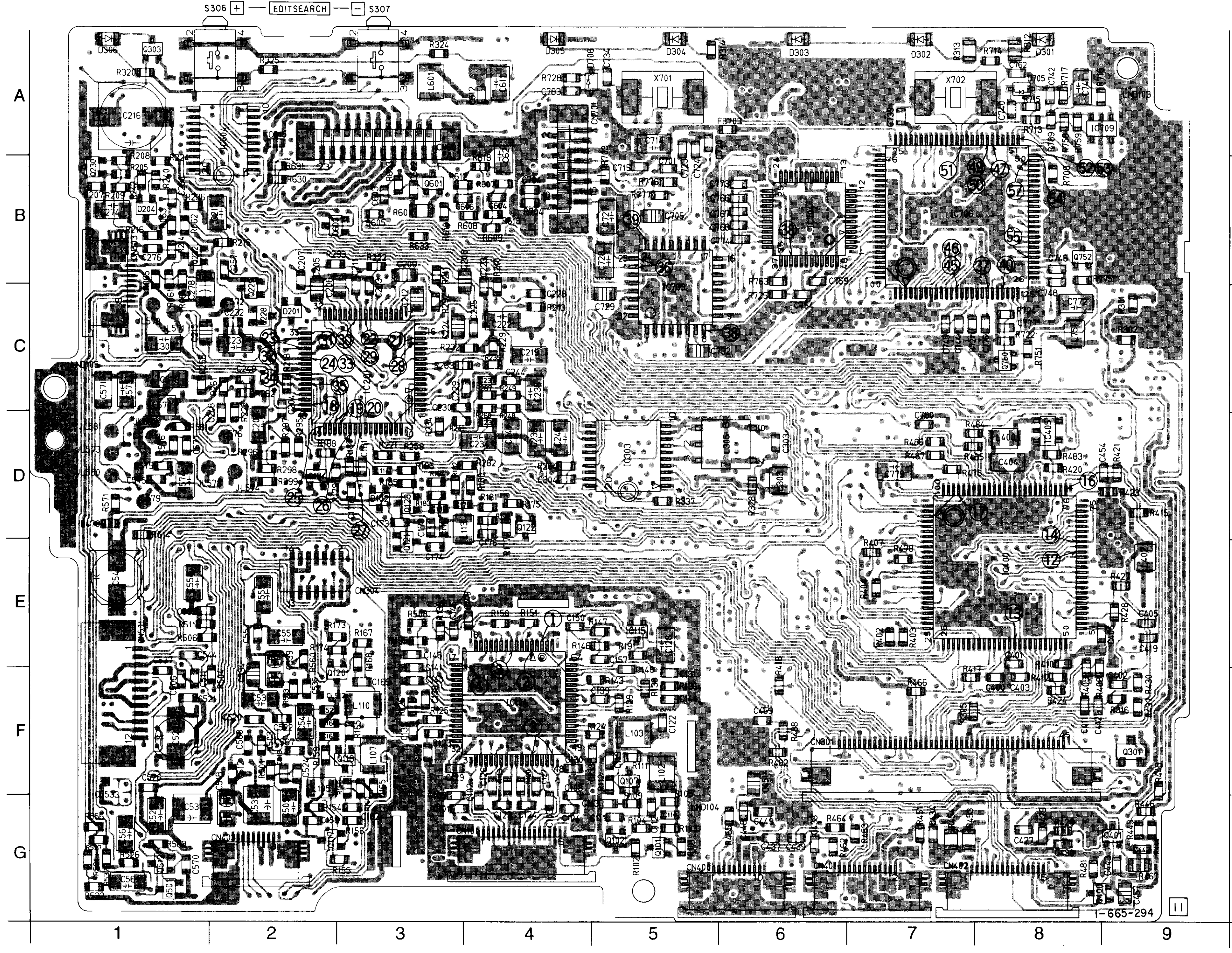
- * . indicated by the color red

VC-188 (MAIN) PRINTED WIRING BOARD

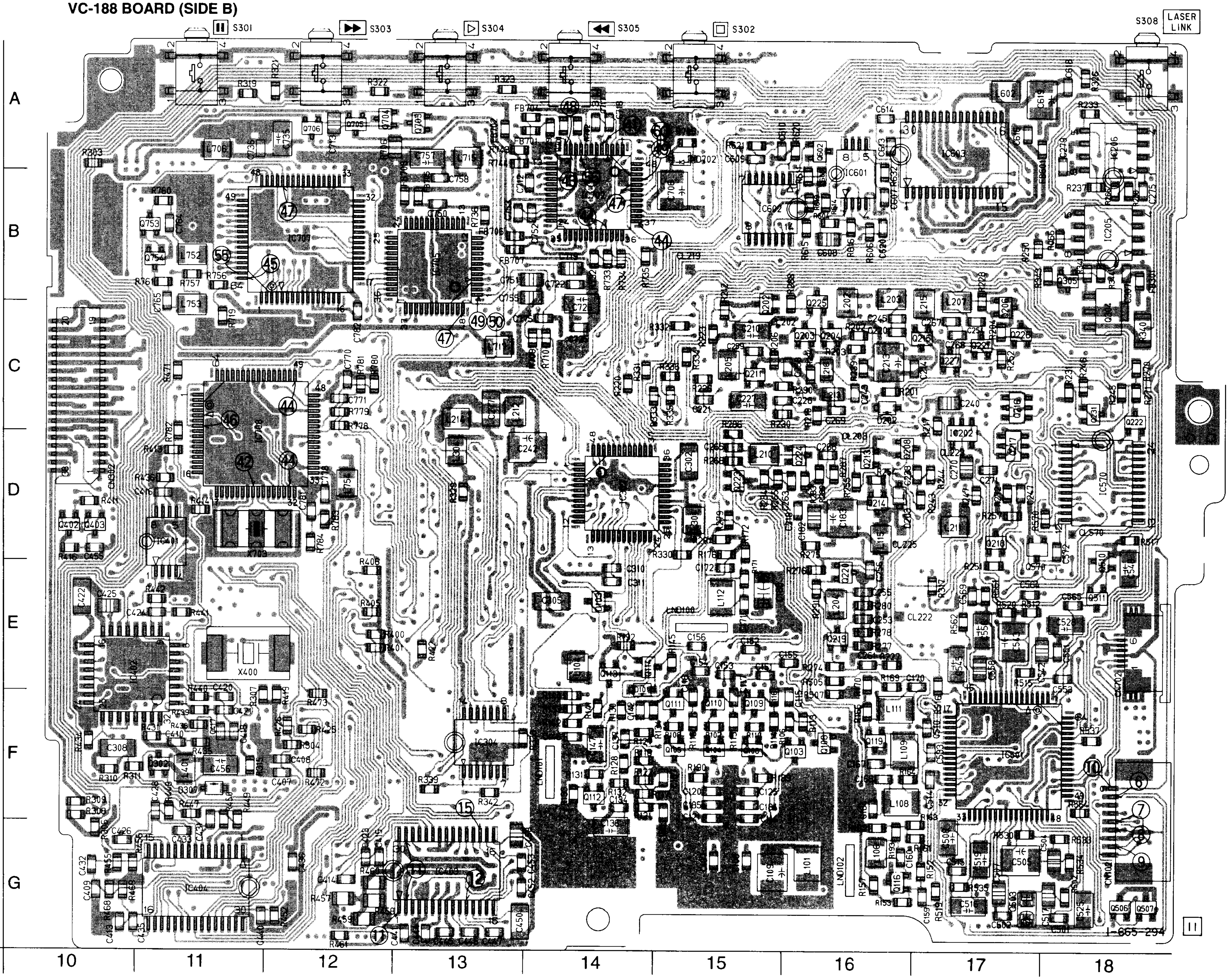
— Ref. No. VC-188 Board; 1,000 Series —

There are few cases that the part printed on this diagram isn't mounted in this model.

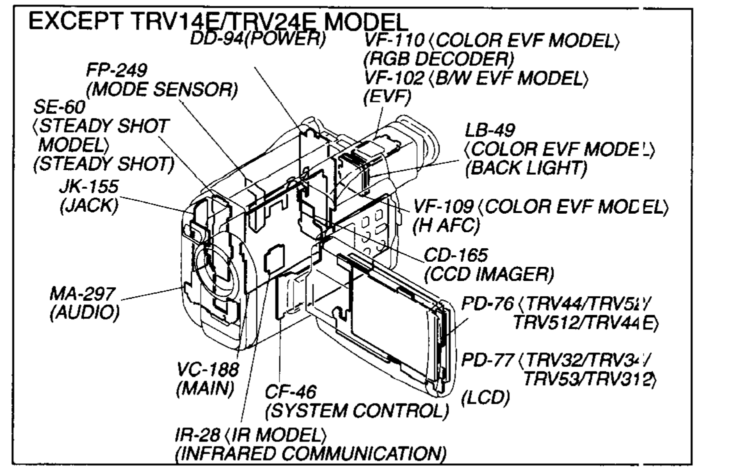
VC-188 BOARD (SIDE A)


S306
+
EDITSEARCH
–
S307
A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
1-665-294
11

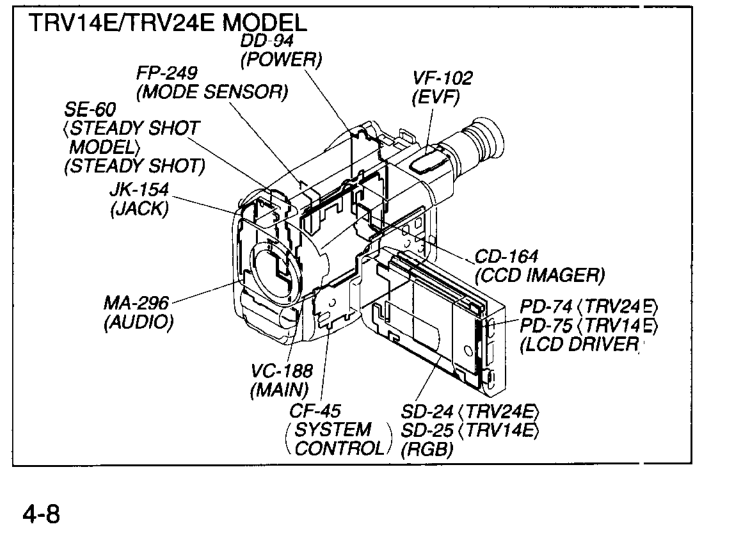
VC-188 BOARD (SIDE B)


S301
S303
S304
S305
S302
S308
LASER LINK
A
B
C
D
E
F
G
10
11
12
13
14
15
16
17
18
1-665-294
11

EXCEPT TRV14E/TRV24E MODEL


DD-94(POWER)
VF-110 ⟨COLOR EVF MODEL⟩
(RGB DECODER)
VF-102 ⟨B/W EVF MODEL⟩
(EVF)
FP-249
(MODE SENSOR)
SE-60
⟨STEADY SHOT
MODEL⟩
(STEADY SHOT)
LB-49
⟨COLOR EVF MODEL⟩
(BACK LIGHT)
JK-155
(JACK)
VF-109 ⟨COLOR EVF MODEL⟩
(H AFC)
CD-165
(CCD IMAGER)
MA-297
(AUDIO)
PD-76 ⟨TRV44/TRV52/
TRV512/TRV44E⟩
PD-77 ⟨TRV32/TRV34/
TRV53/TRV312⟩
(LCD)
VC-188
(MAIN)
CF-46
(SYSTEM CONTROL)
IR-28 ⟨IR MODEL⟩
(INFRARED COMMUNICATION)

TRV14E/TRV24E MODEL


DD-94
(POWER)
FP-249
(MODE SENSOR)
VF-102
(EVF)
SE-60
⟨STEADY SHOT
MODEL⟩
(STEADY SHOT)
JK-154
(JACK)
CD-164
(CCD IMAGER)
MA-296
(AUDIO)
PD-74 ⟨TRV24E⟩
PD-75 ⟨TRV14E⟩
(LCD DRIVER)
VC-188
(MAIN)
CF-45
(SYSTEM
CONTROL)
SD-24 ⟨TRV24E⟩
SD-25 ⟨TRV14E⟩
(RGB)

VC-188 BOARD

C101	G-3
C102	F-4
C103	G-4
C104	G-4
C105	G-3
C106	G-15
C107	G-15
C108	F-4
C109	G-15
C110	G-5
C111	G-5
C112	G-5
C113	G-5
C114	F-15
C115	F-16
C116	F-15
C117	F-15
C118	F-15
C119	F-5
C120	F-15
C121	F-15
C122	F-5
C123	G-4
C124	G-4
C125	F-15
C126	F-4
C127	F-4
C128	E-5
C129	F-3
C130	F-4
C131	F-5
C132	F-3
C133	F-4
C134	F-14
C136	G-14
C138	F-3
C139	F-5
C140	F-3
C141	E-3
C142	F-14
C143	E-3
C144	F-5
C145	E-3
C146	F-14
C147	F-14
C148	F-5
C149	E-4
C150	E-4
C151	E-15
C152	E-15
C155	E-16
C156	E-15
C157	E-5
C158	G-2
C159	G-17
C160	G-16
C161	F-2
C162	G-3
C164	F-16
C165	F-3
C166	F-16
C167	F-16
C168	F-2
C169	F-3
C170	E-17
C171	E-15
C172	E-15
C173	D-3
C174	E-3
C176	D-4
C177	D-3
C178	D-3
C179	D-3
C180	D-3
C181	D-3
C182	D-16
C202	D-2
C203	C-3
C204	C-2
C205	B-2
C206	C-2
C207	B-2
C208	B-4
C209	B-3
C210	C-15
C211	C-3
C212	C-3
C213	C-16
C214	C-17
C215	C-1
C216	A-1
C217	B-2
C218	D-16
C219	C-4
C220	C-16
C221	C-15
C223	C-4
C224	C-3
C225	C-4
C226	C-15
C227	C-15
C228	C-4
C229	C-3
C230	C-3
C231	C-2
C232	C-2
C233	D-16
C234	D-4
C235	D-4
C236	D-4
C237	C-4
C238	C-4
C240	C-17
C242	D-14
C243	C-16
C244	C-4
C245	C-16
C246	D-4
C247	D-17
C248	C-2
C249	C-2
C254	C-17
C256	E-16
C257	B-2
C259	C-15
C263	D-16
C265	D-15
C266	D-16
C267	C-17
C268	C-17
C269	C-16
C270	D-17
C271	D-17
C274	B-1
C275	B-18
C276	B-1
C277	C-13
C278	C-3
C279	A-18
C280	B-1
C302	D-15
C303	D-6
C304	D-4
C305	E-14
C307	B-18
C309	C-1
C400	F-8
C401	E-8
C402	F-9
C403	F-9
C404	D-8
C405	E-9
C406	E-9
C407	F-12
C408	F-12
C409	G-10
C410	F-11
C411	F-8
C412	F-8
C413	G-10
C414	G-12
C415	G-12
C416	D-11
C417	F-11
C418	F-11
C419	E-9
C420	F-11
C421	F-11
C423	G-12
C424	E-11
C425	E-10
C426	G-10
C427	G-8
C428	F-11
C429	G-8
C430	G-8
C431	G-11
C432	G-10
C433	G-11
C434	G-7
C435	G-10
C436	G-12
C437	G-6
C438	G-6
C439	G-6
C441	G-13
C442	G-9
C443	G-9
C444	G-13
C445	G-13
C446	G-13
C447	G-13
C448	G-6
C449	G-6
C450	G-13
C451	F-6
C452	G-13
C453	G-13
C456	F-11
C458	G-13
C459	F-6
C502	G-17
C504	G-18
C505	G-17
C506	F-1
C507	G-17
C508	G-17
C509	G-2
C510	F-17
C511	F-1
C512	F-2
C513	F-2
C514	F-17
C515	G-17
C516	G-17
C517	G-18
C518	F-2
C520	F-2
C522	F-2
C523	F-1
C529	G-1
C530	F-2
C531	G-1
C532	E-1
C533	F-17
C534	E-2
C535	G-2
C537	E-1
C539	E-2
C541	F-2
C543	E-17
C544	E-1
C546	E-1
C548	E-18
C550	E-2
C551	E-18
C553	E-18
C554	E-1
C555	E-2
C556	E-17
C557	E-2
C558	E-17
C561	G-1
C563	G-1
C571	C-1
C572	D-18
C573	C-1
C574	D-1
C575	D-1
C576	D-1
C577	D-1
C578	C-1
C602	B-3
C603	B-3
C604	B-4
C605	B-16
C606	B-3
C607	B-16
C608	B-16
C609	A-15
C610	A-15
C611	A-4
C612	A-4
C613	A-16
C614	A-16
C615	A-2
C616	A-17
C618	A-18
C619	A-17
C620	B-16
C621	B-3
C701	B-5
C704	B-4
C705	B-5
C706	B-15
C712	B-13
C714	A-5
C715	B-5
C717	A-14
C718	A-14
C719	B-14
C722	B-14
C725	C-14
C726	C-14
C727	B-5
C728	B-5
C729	C-5
C732	C-5
C734	A-5
C735	A-12
C736	A-11
C739	A-7
C740	A-8
C741	A-8
C742	A-8
C745	C-7
C746	B-8
C748	B-8
C750	B-13
C751	B-13
C752	B-14
C753	B-17
C754	C-6
C755	B-13
C757	A-13
C758	B-13
C759	B-6
C764	B-11
C765	C-11
C770	C-12
C771	C-12
C772	C-8
C773	B-6
C774	B-6
C775	C-14
C776	C-8
C777	C-8
C778	D-12
C779	D-7
C780	D-7
C781	D-12
C782	C-12
CN101	G-4
CN102	G-18
CN301	F-6
CN302	D-10
CN303	D-1
CN304	E-3
CN400	G-5
CN401	G-6
CN402	G-7
CN403	G-2
CN501	E-1
CN601	A-3
CN701	A-4
CN702	E-18
D101	E-14
D102	D-3
D103	E-14
D201	C-2
D202	C-16
D203	D-16
D204	B-1
D301	A-8
D302	A-7
D303	A-6
D304	A-5
D305	A-4
D306	A-1
D307	F-11
D705	A-8
D706	A-4
FB301	B-18
FB601	A-17
FB701	A-13
FB702	A-13
FB703	A-6
FB704	A-13
FB705	B-13
FB706	B-13
FB707	B-13
FB708	B-13
IC101	F-4
IC201	C-3
IC202	D-17
IC205	B-18
IC206	A-18
IC302	D-14
IC303	D-5
IC304	F-13
IC400	E-9
IC401	D-11
IC402	E-10
IC403	G-13
IC404	G-11
IC405	D-8
IC501	F-17
IC570	D-18
IC601	B-16
IC602	B-15
IC603	A-17
IC604	A-2
IC702	B-14
IC703	C-5
IC704	B-6
IC705	B-13
IC706	B-7
IC707	B-12
IC709	A-8
L101	G-16
L102	F-5
L103	F-5
L104	E-14
L105	F-2
L106	G-16
L107	F-3
L108	F-16
L109	F-16
L110	F-3
L111	F-16
L112	E-15
L113	D-3
L114	D-3
L115	D-16
L202	C-16
L203	C-16
L205	C-15
L207	C-17
L210	D-15
L211	D-17
L212	C-13
L213	C-16
L214	C-13
L215	C-17
L216	C-16
L301	D-15
L303	D-6
L304	D-13
L305	D-6
L400	D-8
L401	F-11
L402	E-9
L570	C-1
L601	A-3
L602	A-17
L706	A-11
L715	A-13
L717	G-13
L751	C-8
L752	B-11
L753	L-11
L754	L-12
Q101	G-5
Q102	G-5
Q103	F-16
Q104	F-15
Q105	F-15
Q106	F-15
Q107	F-5
Q108	F-16
Q109	F-15
Q110	F-15
Q111	F-15
Q112	F-14
Q113	E-14
Q114	E-14
Q115	E-5
Q116	G-16
Q117	G-2
Q118	F-3
Q119	F-16
Q121	E-3
Q122	D-4
Q123	D-3
Q202	C-15
Q206	C-17
Q208	D-16
Q211	C-15
Q213	D-16
Q214	D-16
Q215	C-17
Q216	C-17
Q217	D-17
Q218	D-17
Q219	E-16
Q221	C-17
Q222	C-18
Q223	D-15
Q224	D-16
Q226	C-17
Q227	C-17
Q228	C-2
Q229	C-2
Q230	B-1
Q231	C-18
Q232	B-1
Q301	F-9
Q302	F-11
Q303	A-1
Q304	C-18
Q305	B-18
Q400	G-8
Q401	G-9
Q501	G-1
Q506	G-18
Q507	G-18
Q570	D-17
Q601	B-3
Q602	A-16
Q603	B-3
Q703	A-13
Q704	A-12
Q705	A-12
Q706	A-12
Q750	C-8
Q752	B-8
Q753	B-11
Q754	B-11
R061	C-1
R062	B-2
R063	B-2
R064	C-1
R065	B-2
R101	G-5
R102	G-5
R103	G-5
R104	G-5
R105	G-5
R106	F-15
R107	F-15
R108	F-15
R109	G-5
R110	F-15
R111	F-5
R112	F-5
R113	F-15
R114	F-15
R115	F-15
R116	F-15
R117	F-14
R118	F-14
R119	F-4
R120	F-4
R121	F-14
R122	F-14
R123	F-5
R124	F-5
R125	F-5
R129	F-5
R132	F-14
R133	F-14
R134	F-14
R135	E-3
R136	F-5
R137	F-14
R138	F-5
R139	E-3
R140	F-14
R141	F-14
R142	F-14
R145	E-15
R146	E-5
R147	E-5
R150	E-4
R152	G-17
R153	G-16
R154	G-2
R155	G-2
R156	G-3
R157	G-16
R158	F-3
R159	F-2
R160	G-3
R163	G-17
R164	F-16
R165	F-3
R167	E-3
R168	E-3
R169	E-16
R170	E-16
R171	E-15
R172	D-15
R174	E-2
R175	D-4
R176	D-15
R177	D-4
R178	D-4
R179	D-3
R180	D-4
R181	D-4
R182	D-3
R183	D-3
R184	D-3
R185	D-3
R186	D-3
R187	D-3
R189	F-15
R190	F-15
R191	E-5
R192	E-14
R193	G-16
R201	C-16
R202	C-16
R203	C-16
R204	C-17
R205	B-1
R206	C-15
R207	B-1
R208	B-1
R210	C-4
R211	B-3
R212	C-15
R213	C-4
R214	B-1
R215	B-2
R216	B-1
R218	C-2
R219	C-16
R220	C-14
R221	D-3
R222	B-3
R223	C-15
R224	B-1
R225	C-2
R226	C-15
R228	C-17
R229	C-4
R230	C-15
R231	C-18
R232	C-3
R233	A-18
R234	D-3
R235	C-4
R236	B-1
R237	B-18
R239	C-16
R240	B-1
R241	D-3
R242	B-2
R243	D-17
R244	D-17
R245	C-18
R246	C-18
R247	D-17
R248	C-4
R249	C-4
R250	B-17
R252	C-17
R254	D-16
R255	D-16
R256	C-3
R257	D-17
R259	D-3
R260	C-4
R261	C-2
R262	C-2
R263	C-3
R265	D-15
R266	B-18
R267	C-4
R268	D-15
R270	C-18
R271	C-18
R272	D-17
R274	E-16
R276	E-16
R277	E-16
R279	D-15
R281	D-15
R282	D-4
R283	D-16
R284	D-15
R286	C-15
R287	D-16
R289	D-16
R290	C-15
R291	E-16
R292	C-3
R293	B-3
R294	C-16
R295	D-2
R296	D-4
R297	D-2
R298	D-4
R299	D-4
R302	C-9
R303	A-10
R304	F-12
R305	F-7
R306	G-10
R307	F-11
R308	F-10
R309	F-10
R310	F-10
R311	F-10
R312	A-8
R313	A-7
R314	A-5
R315	F-11
R316	F-9
R317	E-17
R319	A-11
R320	A-1
R321	A-12
R322	A-12
R323	A-13
R324	A-3
R325	A-2
R326	A-18
R328	D-6
R329	D-13
R330	D-15
R331	C-14
R332	C-15
R333	C-14
R334	C-15
R335	C-15
R336	C-15
R337	D-5
R339	F-13
R340	C-18
R341	B-18
R342	F-13
R343	B-18
R344	B-18
R400	E-12
R401	E-12
R402	E-7
R403	E-7
R404	E-7
R405	E-12
R406	E-12
R407	E-7
R408	F-8
R409	F-8
R410	E-8
R411	D-10
R412	F-8
R413	D-11
R414	D-11
R417	F-7
R418	F-6
R419	F-12
R420	D-8
R421	D-9
R422	E-13
R423	D-9
R424	F-8
R425	F-12
R426	F-12
R427	E-9
R428	E-9
R429	G-8
R430	F-9
R431	E-11
R434	F-10
R436	D-11
R437	F-9
R438	F-11
R439	F-11
R440	F-11
R441	E-11
R442	E-11
R443	G-9
R444	G-9
R445	G-9
R446	G-9
R447	F-11
R448	F-11
R449	F-11
R450	F-11
R451	G-7
R452	G-12
R453	G-7
R454	G-7
R455	G-10
R456	G-10
R458	G-12
R459	G-12
R460	G-12
R461	G-12
R462	G-6
R463	G-7
R464	G-6
R465	G-6
R466	F-7
R467	G-9
R468	G-10
R469	G-10
R471	C-11
R472	F-12
R473	F-12
R475	D-7
R478	E-7
R479	D-1
R481	G-8
R484	D-7
R485	D-7
R486	D-7
R487	D-7
R488	F-6
R501	F-1
R502	G-18
R503	F-2
R505	E-16
R506	E-1
R507	F-16
R511	E-1
R512	E-17
R513	F-2
R514	D-1
R515	E-17
R516	F-17
R517	D-18
R519	G-17
R520	E-17
R522	G-1
R526	G-1
R527	G-1
R530	G-17
R531	G-1
R532	G-1
R533	G-18
R534	G-18
R537	F-18
R556	G-1
R562	E-17
R564	F-17
R570	D-17
R571	D-1
R575	D-1
R581	D-1
R601	B-3
R603	B-3
R604	B-16
R605	B-3
R606	B-16
R607	B-4
R608	B-3
R609	B-4
R610	B-3
R611	B-16
R612	B-3
R613	B-4
R614	B-16
R615	B-16
R616	B-16
R618	B-3
R619	B-16
R620	A-16
R621	A-15
R630	B-2
R631	B-2
R632	B-16
R633	B-3
R701	A-14
R702	A-14
R703	B-5
R704	B-4
R708	B-8
R709	C-14
R710	C-14
R713	A-8
R714	A-8
R715	A-8
R717	A-8
R719	C-11
R721	C-3
R722	C-8
R724	C-8
R725	C-6
R728	A-4
R729	A-14
R732	B-14
R733	B-14
R734	B-14
R735	B-14
R743	A-13
R744	A-13
R751	C-8
R756	B-11
R757	B-11
R758	A-8
R759	A-8
R760	B-11
R761	B-11
R775	B-8
R776	B-5
R777	B-5
R778	C-11
R779	C-11
R780	C-11
R781	C-11
R782	D-11
R783	D-12
R784	D-12
S301	A-11
S302	A-15
S303	A-12
S304	A-13
S305	A-14
S306	A-2
S307	A-3
S308	A-18
X400	E-11
X701	A-5
X702	A-7
X703	D-11

〈Mount table for each function〉

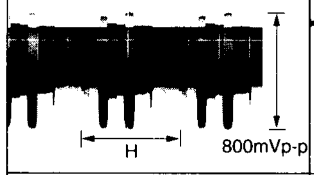
Ref_No	PAL/760 G4/CCD-S	PAL/760 G4/CCD-M	PAL/760 LOGOS/CCD-S	PAL/760 LOGOS/CCD-M	PAL/760 G4/CCD-SUP	PAL/510/EZ G4/CCD-S	PAL/510/EZ G4/CCD-M	PAL/510/EZ LOGOS/CCD-S	PAL/510/EZ LOGOS/CCD-M	PAL/510/EZ G4/CCD-SUP	PAL/510 G4/CCD-S	PAL/510 G4/CCD-M	PAL/510 LOGOS/CCD-S	PAL/510 LOGOS/CCD-M	PAL/510 G4/CCD-SUP
C739	33p	33p	33p	33p	33p	33p	33p	33p	33p	33p	33p	33p	33p	33p	33p
C740	470p	470p	470p	470p	470p	470p	470p	470p	470p	470p	470p	470p	470p	470p	470p
C741	1.5u	1.5u	1.5u	1.5u	1.5u	1.5u	1.5u	1.5u	1.5u	1.5u	1.5u	1.5u	1.5u	1.5u	1.5u
C742	0.1u	0.1u	0.1u	0.1u	0.1u	0.1u	0.1u	0.1u	0.1u	0.1u	0.1u	0.1u	0.1u	0.1u	0.1u
C748	XX	XX	XX	XX	XX	0.1u	0.1u	0.1u	0.1u	0.1u	XX	XX	XX	XX	XX
C764	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
C765	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
C776	0.1u	0.1u	560	560	0.1u	0.1u	0.1u	560	560	0.1u	0.1u	0.1u	560	560	0.1u
C777	0.1u	0.1u	560	560	0.1u	0.1u	0.1u	560	560	0.1u	0.1u	0.1u	560	560	0.1u
C778	0.1u	0.1u	0.1u	0.1u	0.1u	0.01u	0.01u	0.01u	0.01u	0.01u	XX	XX	XX	XX	XX
C779	10u	10u	10u	10u	10u	10u	10u	10u	10u	10u	XX	XX	XX	XX	XX
C780	0.01u	0.01u	0.01u	0.01u	0.01u	0.01u	0.01u	0.01u	0.01u	0.01u	XX	XX	XX	XX	XX
C781	0.01u	0.01u	0.01u	0.01u	0.01u	0.01u	0.01u	0.01u	0.01u	0.01u	XX	XX	XX	XX	XX
CN702	6P	6P	6P	6P	6P	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
D702	MA111-TX	XX	MA111-TX	XX	XX	MA111-TX	XX	MA111-TX	XX	XX	MA111-TX	XX	MA111-TX	XX	XX
D705	1T363-01-T	1T363-01-T	1T363-01-T	1T363-01-T	1T363-01-T	1T363-01-T	1T363-01-T	1T363-01-T	1T363-01-T	1T363-01-T	1T363-01-T	1T363-01-T	1T363-01-T	1T363-01-T	1T363-01-T
FB702	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IC706	CXD2180AR-	CXD2180AR-	CXD8562AR-	CXD8562AR-	CXD2180AR-	CXD2180AR-	CXD2180AR-	CXD8562AR-	CXD8562AR-	CXD2180AR-	CXD2180AR-	CXD2180AR-	CXD8562AR-	CXD8562AR-	CXD2180AR-
IC707	HG51D267FG	HG51D267FG	HG51D267FG	HG51D267FG	HG51D267FG	CXD2152ARE	CXD2152ARE	CXD2152ARE	CXD2152ARE	CXD2152ARE	XX	XX	XX	XX	XX
IC708	CXP81120-0	CXP81120-0	CXP81120-0	CXP81120-0	CXP81120-0	XX	XX	XX	XX	XX	CXP81120-0	CXP81120-0	CXP81120-0	CXP81120-0	CXP81120-0
IC709	TA75S558F(	TA75S558F(	TA75S558F(	TA75S558F(	TA75S558F(	TA75S558F(	TA75S558F(	TA75S558F(	TA75S558F(	TA75S558F(	TA75S558F(	TA75S558F(	TA75S558F(	TA75S558F(	TA75S558F(
L752	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
L753	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
L754	10uH	10uH	10uH	10uH	10uH	10uH	10uH	10uH	10uH	10uH	XX	XX	XX	XX	XX
Q753	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
Q754	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
R701	100	100	100	100	100	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
R702	XX	XX	XX	XX	XX	100	100	100	100	100	100	100	100	100	100
R705	100k	XX	100k	XX	XX	100k	XX	100k	XX	XX	100k	XX	100k	XX	XX
R713	10k	10k	10k	10k	10k	10k	10k	10k	10k	10k	10k	10k	10k	10k	10k
R714	1M	1M	1M	1M	1M	1M	1M	1M	1M	1M	1M	1M	1M	1M	1M
R715	100k	100k	100k	100k	100k	100k	100k	100k	100k	100k	100k	100k	100k	100k	100k
R717	4700	4700	4700	4700	4700	4700	4700	4700	4700	4700	4700	4700	4700	4700	4700
R719	120	120	560	560	120	120	120	560	560	120	120	120	560	560	120
R721	2200	2200	3300	3300	2200	2200	2200	3300	3300	2200	2200	2200	3300	3300	2200
R722	2200	2200	3300	3300	2200	2200	2200	3300	3300	2200	2200	2200	3300	3300	2200
R724	120	120	560	560	120	120	120	560	560	120	120	120	560	560	120
R743	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
R758	10k	10k	10k	10k	10k	10k	10k	10k	10k	10k	10k	10k	10k	10k	10k
R759	18k	18k	18k	18k	18k	18k	18k	18k	18k	18k	18k	18k	18k	18k	18k
R760	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
R761	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
R778	39k	39k	39k	39k	39k	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
R779	39k	39k	39k	39k	39k	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
R780	68k	68k	68k	68k	68k	0	0	0	0	0	XX	XX	XX	XX	XX
R781	68k	68k	68k	68k	68k	0	0	0	0	0	XX	XX	XX	XX	XX
R782	1k	1k	1k	1k	1k	1k	1k	1k	1k	1k	XX	XX	XX	XX	XX
R783	100k	100k	100k	100k	100k	100k	100k	100k	100k	100k	XX	XX	XX	XX	XX
R784	1k	1k	1k	1k	1k	1k	1k	1k	1k	1k	XX	XX	XX	XX	XX
X701	28.375MHz	28.375MHz	28.375MHz	28.375MHz	28.375MHz	28.375MHz	28.375MHz	28.375MHz	28.375MHz	28.375MHz	28.375MHz	28.375MHz	28.375MHz	28.375MHz	28.375MHz
X702	17.734475M	17.734475M	17.734475M	17.734475M	17.734475M	17.734475M	17.734475M	17.734475M	17.734475M	17.734475M	17.734475M	17.734475M	17.734475M	17.734475M	17.734475M

Ref_No	NTSC/760 G4/CCD-S	NTSC/760 G4/CCD-M	NTSC/760 LOGOS/CCD-S	NTSC/760 LOGOS/CCD-M	NTSC/760 G4/CCD-SUP	NTSC/510/EZ G4/CCD-S	NTSC/510/EZ G4/CCD-M	NTSC/510/EZ LOGOS/CCD-S	NTSC/510/EZ LOGOS/CCD-M	NTSC/510/EZ G4/CCD-SUP	NTSC/510 G4/CCD-S	NTSC/510 G4/CCD-M	NTSC/510 LOGOS/CCD-S	NTSC/510 LOGOS/CCD-M	NTSC/510 G4/CCD-SUP
C739	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
C740	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
C741	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
C742	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
C748	XX	XX	XX	XX	XX	0.1u	0.1u	0.1u	0.1u	0.1u	XX	XX	XX	XX	XX
C764	120p	120p	120p	120p	120p	120p	120p	120p	120p	120p	120p	120p	120p	120p	120p
C765	22p	22p	22p	22p	22p	22p	22p	22p	22p	22p	22p	22p	22p	22p	22p
C776	0.1u	0.1u	560	560	0.1u	0.1u	0.1u	560	560	0.1u	0.1u	0.1u	560	560	0.1u
C777	0.1u	0.1u	560	560	0.1u	0.1u	0.1u	560	560	0.1u	0.1u	0.1u	560	560	0.1u
C778	0.01u	0.01u	0.01u	0.01u	0.01u	0.01u	0.01u	0.01u	0.01u	0.01u	XX	XX	XX	XX	XX
C779	10u	10u	10u	10u	10u	10u	10u	10u	10u	10u	XX	XX	XX	XX	XX
C780	0.01u	0.01u	0.01u	0.01u	0.01u	0.01u	0.01u	0.01u	0.01u	0.01u	XX	XX	XX	XX	XX
C781	0.01u	0.01u	0.01u	0.01u	0.01u	0.01u	0.01u	0.01u	0.01u	0.01u	XX	XX	XX	XX	XX
CN702	6P	6P	6P	6P	6P	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
D702	MA111-TX	XX	MA111-TX	XX	XX	MA111-TX	XX	MA111-TX	XX	XX	MA111-TX	XX	MA111-TX	XX	XX
D705	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
FB702	-	-	-	-	-	-	XX	-	XX	XX	-	XX	-	XX	XX
IC706	CXD2180AR-	CXD2180AR-	CXD8562AR-	CXD8562AR-	CXD2180AR-	CXD2180AR-	CXD2180AR-	CXD8562AR-	CXD8562AR-	CXD2180AR-	CXD2180AR-	CXD2180AR-	CXD8562AR-	CXD8562AR-	CXD2180AR-
IC707	CXD2152ARE	CXD2152ARE	CXD2152ARE	CXD2152ARE	CXD2152ARE	CXD2152ARE	CXD2152ARE	CXD2152ARE	CXD2152ARE	CXD2152ARE	XX	XX	XX	XX	XX
IC708	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	CXP81120-0	CXP81120-0	CXP81120-0	CXP81120-0	CXP81120-0
IC709	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
L752	47uH	47uH	47uH	47uH	47uH	47uH	47uH	47uH	47uH	47uH	47uH	47uH	47uH	47uH	47uH
L753	47uH	47uH	47uH	47uH	47uH	47uH	47uH	47uH	47uH	47uH	47uH	47uH	47uH	47uH	47uH
L754	10uH	10uH	10uH	10uH	10uH	10uH	10uH	10uH	10uH	10uH	XX	XX	XX	XX	XX
Q753	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL
Q754	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL
R701	100	100	100	100	100	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
R702	XX	XX	XX	XX	XX	100	100	100	100	100	100	100	100	100	100
R705	100k	XX	100k	XX	XX	100k	XX	100k	XX	XX	100k	XX	100k	XX	XX
R713	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
R714	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
R715	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
R717	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
R719	120	120	560	560	120	120	120	560	560	120	120	120	560	560	120
R721	2200	2200	3300	3300	2200	2200	2200	3300	3300	2200	2200	2200	3300	3300	2200
R722	2200	2200	3300	3300	2200	2200	2200	3300	3300	2200	2200	2200	3300	3300	2200
R724	120	120	560	560	120	120	120	560	560	120	120	120	560	560	120
R743	XX	XX	XX	XX	XX	XX	0	XX	0	XX	XX	0	XX	0	XX
R758	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
R759	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
R760	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
R761	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220
R778	39k	39k	39k	39k	39k	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
R779	39k	39k	39k	39k	39k	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
R780	68k	68k	68k	68k	68k	0	0	0	0	0	XX	XX	XX	XX	XX
R781	68k	68k	68k	68k	68k	0	0	0	0	0	XX	XX	XX	XX	XX
R782	1k	1k	1k	1k	1k	1k	1k	1k	1k	1k	XX	XX	XX	XX	XX
R783	100k	100k	100k	100k	100k	100k	100k	100k	100k	100k	XX	XX	XX	XX	XX
R784	1k	1k	1k	1k	1k	1k	1k	1k	1k	1k	XX	XX	XX	XX	XX
X701	28.636363M	28.636363M	28.636363M	28.636363M	28.636363M	28.636363M	28.636363M	28.636363M	28.636363M	28.636363M	28.636363M	28.636363M	28.636363M	28.636363M	28.636363M
X702	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX

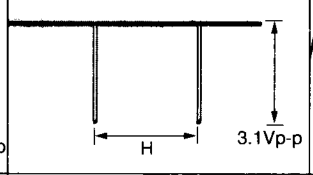
Note
510 : STEADY SHOT-NO
760 : STEADY SHOT-YES
CCD-S : CCD of S Type
CCD-M : CCD of M Type
CCD-SUP : CCD of Special S Type
LOGOS : CXD2180 (IC706)
G4 : CXD8562 (IC706)
EZ : DIGITAL ZOOM

VC-188 BOARD (1/8)

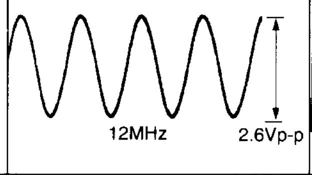
㊱ IC703 ㉕,㉖ REC



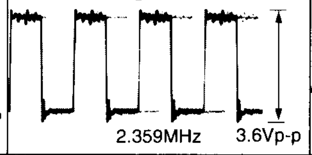
㊴ IC703 ㉔ REC



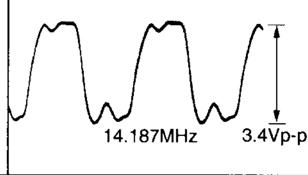
㊷ IC708 ㉔ REC/PB



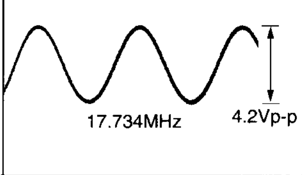
㊺ IC707 (64) REC
IC706 ⑬



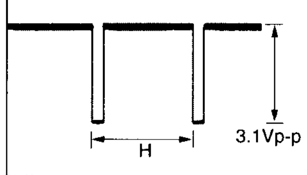
㊽ IC702 ⑫ REC/ PB



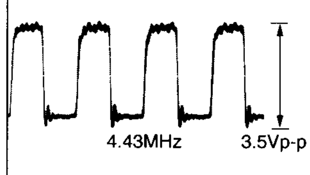
(51) IC706 (62) REC/ PB



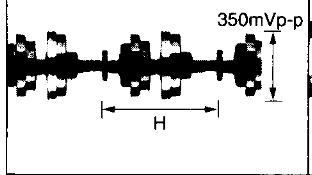
(54) IC706 ㊿ REC/ PB



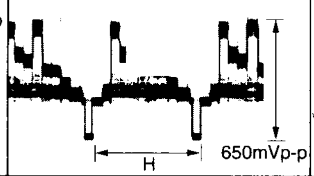
(57) IC706 ㊾ REC/ PB



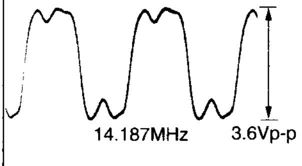
㊲ IC706 ⑳ REC



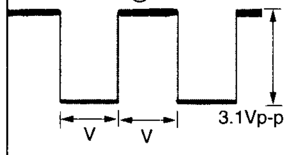
㊵ IC706 ㉓ REC



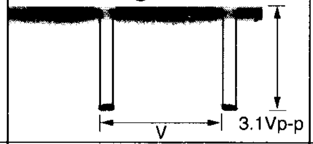
㊸ IC702 ⑪ REC/PB



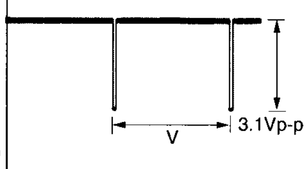
㊻ IC708 ⑦ REC/PB
IC706 ⑬



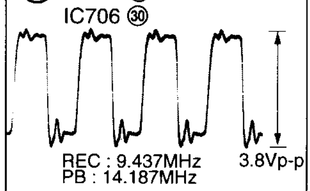
㊾ IC705 ① PB
IC706 (57)
IC702 ㊺



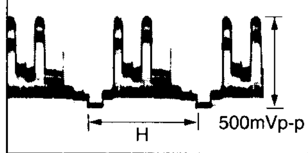
(52) IC706 (51) REC



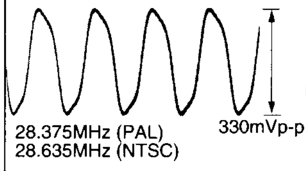
(55) IC707 (63)
IC706 ㉚



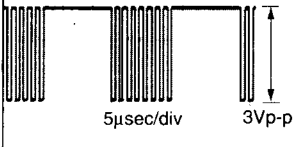
㊳ IC703 ⑧ REC
IC704 ㊴ REC



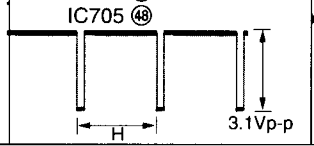
㊶ IC702 ⑤ REC/PB



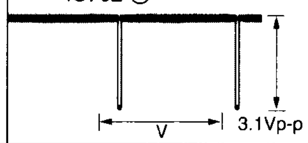
㊹ IC702 ㉝,㊲ REC/PB
IC708 ㊾,㉛



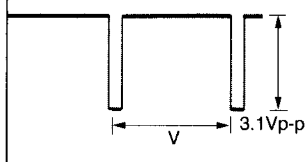
㊼ IC706 (56) REC/PB
IC707 ㊹
IC702 ㊹
IC705 ㊽



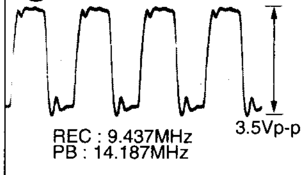
㊿ IC705 ① REC
IC706 (57)
IC702 ㊺



(53) IC706 (51) PB



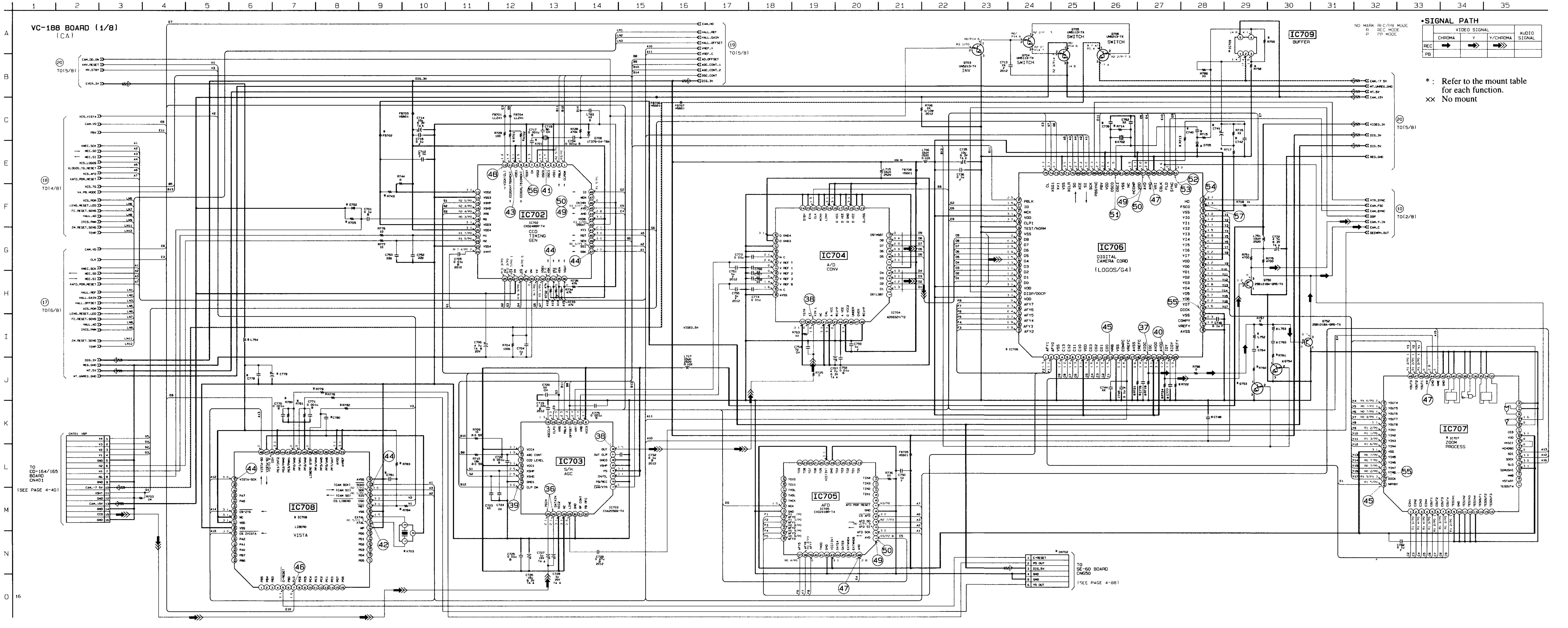
(56) IC702 ⑨



VC-188 (CAMERA 1) SCHEMATIC DIAGRAM

— Ref No. VC-188 Board, 1,000 Series —

• See page 4-5 for VC-188 BOARD printed wiring board


VC-188 BOARD (1/8)
(CA)
TO(5/8)
TO(4/8)
TO(6/8)
TO(2/8)
IC702
CCD TIMING GEN
IC703
S/H AGC
IC704
A/D CONV
IC705
AFD
IC706
DIGITAL CAMERA CORD (LOGOS/G4)
IC707
ZOOM PROCESS
IC708
VISTA
IC709
BUFFER
Q703 INV
Q704 SWITCH
Q705 SWITCH
Q706 SWITCH
TO CD-164/165 BOARD CN401 (SEE PAGE 4-40)
TO SE-60 BOARD CN650 (SEE PAGE 4-88)
CN701 18P
CN702
NO MARK REC/PB MODE
R REC MODE
P PB MODE

•SIGNAL PATH

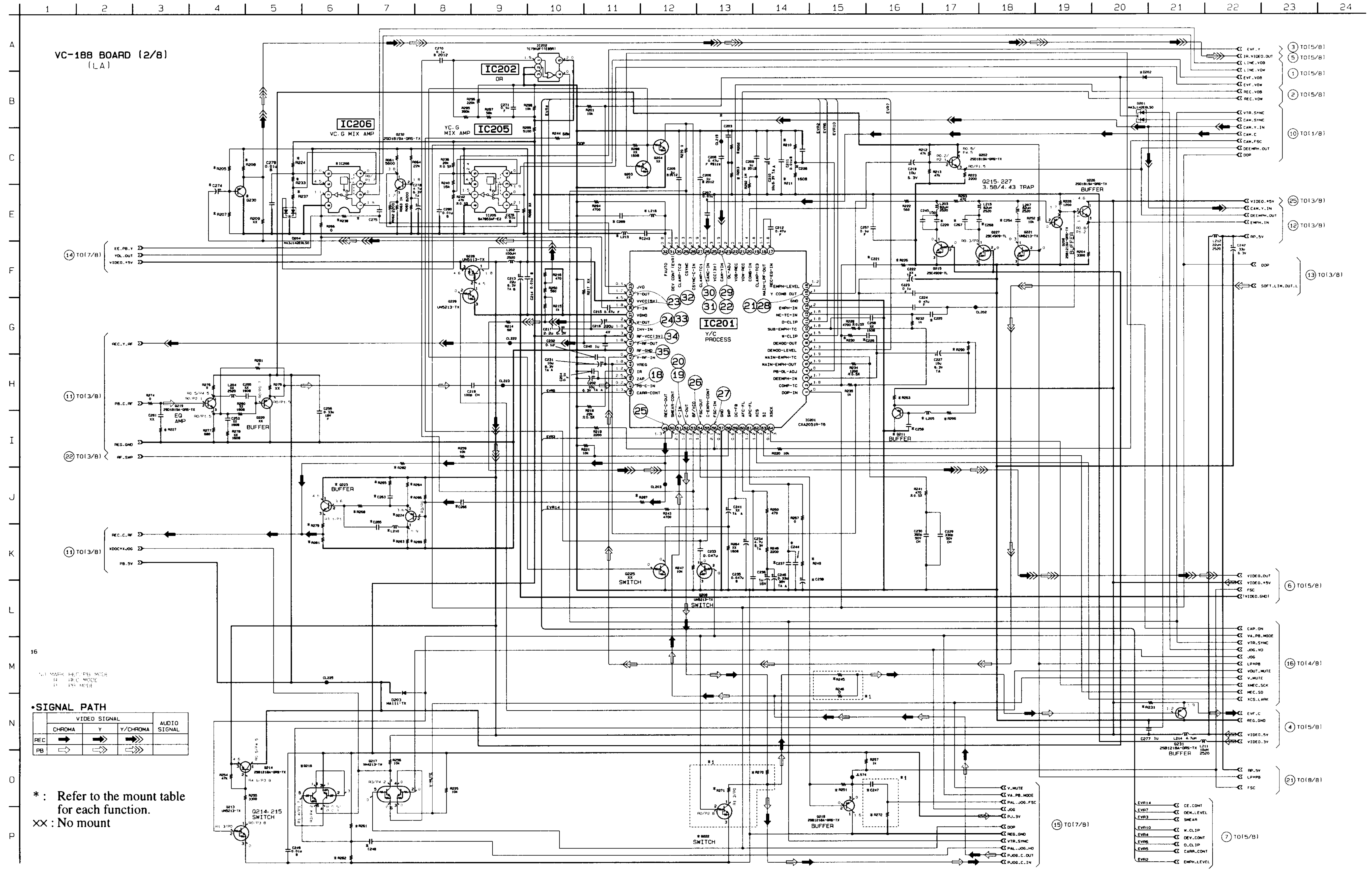
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡〉	➡〉〉	
PB				

* : Refer to the mount table for each function.
xx No mount

VC-188 (CAMERA 2) SCHEMATIC DIAGRAM

— Ref. No. VC-188 Board; 1,000 Series —

- See page 4-5 for VC-188 BOARD printed wiring board.



*: Refer to the mount table for each function.
XX : No mount

⟨Mount table for each function⟩

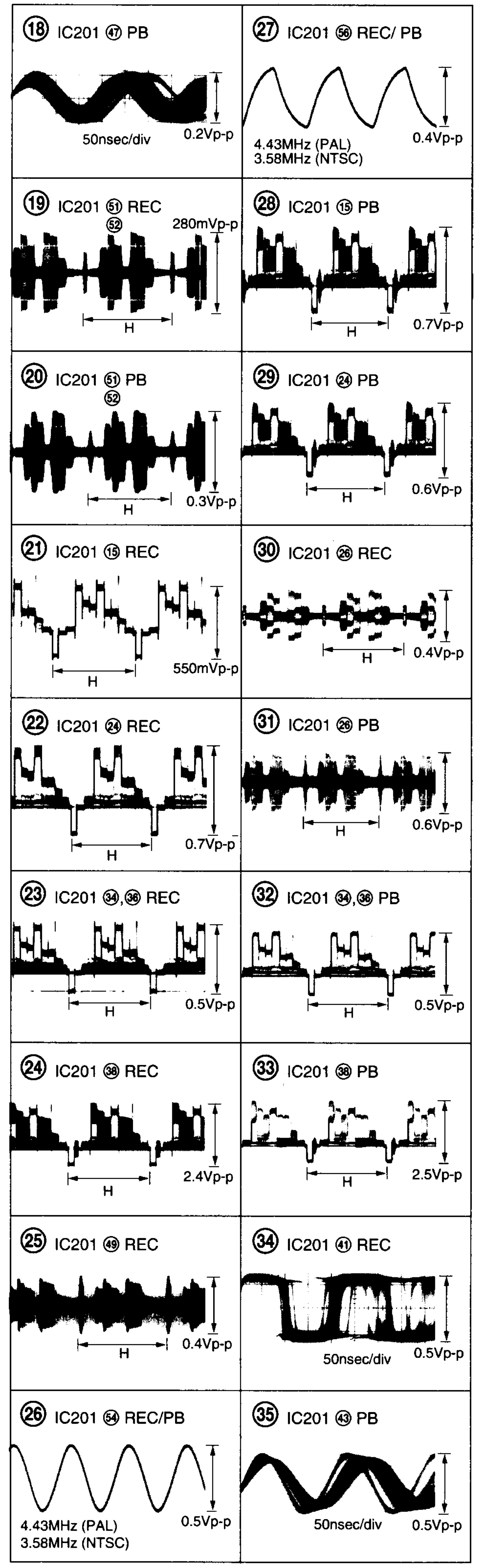
Ref_No	IR-N NTSC/510	IR-N NTSC/760	IR-N PAL/510	IR-N PAL/760	IR NTSC/510	IR NTSC/760	IR PAL/510	IR PAL/760
C203	0.047u	XX	0.047u	XX	0.047u	XX	0.047u	XX
C220	8p	8p	XX	XX	8p	8p	XX	XX
C221	XX	XX	0.1u	0.1u	XX	XX	0.1u	0.1u
C225	180p	180p	120p	120p	180p	180p	120p	120p
C226	XX	XX	220p	220p	XX	XX	220p	220p
C228	XX	0.047u	XX	0.047u	XX	0.047u	XX	0.047u
C237	220p	220p	2200p	2200p	220p	220p	2200p	2200p
C238	2.2u	2.2u	3.3u	3.3u	2.2u	2.2u	3.3u	3.3u
C243	68p	68p	12p	12p	68p	68p	12p	12p
C244	470p	470p	0.01u	0.01u	470p	470p	0.01u	0.01u
C247	XX	XX	100p	100p	XX	XX	100p	100p
C248	XX	XX	47p	47p	XX	XX	47p	47p
C254	24p	24p	16p	16p	24p	24p	16p	16p
C259	100p	100p	XX	XX	100p	100p	XX	XX
C263	22p	22p	27p	XX	22p	22p	27p	XX
C265	82p	82p	82p	XX	82p	82p	82p	XX
C266	0.01u	0.01u	0.01u	XX	0.01u	0.01u	0.01u	XX
C268	8p	8p	XX	XX	8p	8p	XX	XX
C269	XX	XX	33p	33p	XX	XX	33p	33p
C274	XX	XX	XX	XX	10u	10u	10u	10u
C275	XX	XX	XX	XX	XX	XX	XX	XX
D202	XX	XX	MA111-TX	MA111-TX	XX	XX	MA111-TX	MA111-TX
IC205	XX	XX	XX	XX	XX	XX	XX	XX
L205	22uH	22uH	XX	XX	22uH	22uH	XX	XX
L210	22uH	22uH	10uH	XX	22uH	22uH	10uH	XX
L213	100uH	100uH	47uH	47uH	100uH	100uH	47uH	47uH
L216	XX	XX	100uH	100uH	XX	XX	100uH	100uH
Q211	2SB1218A-Q	2SB1218A-Q	XX	XX	2SB1218A-Q	2SB1218A-Q	XX	XX
Q216	XX	XX	XN4312-TW	XN4312-TW	XX	XX	XN4312-TW	XN4312-TW
Q222	XX	XX	UN5213-TX	UN5213-TX	XX	XX	UN5213-TX	UN5213-TX
Q223	2SD1819A-Q	2SD1819A-Q	2SD1819A-Q	XX	2SD1819A-Q	2SD1819A-Q	2SD1819A-Q	XX
Q224	2SB1218A-Q	2SB1218A-Q	2SB1218A-Q	XX	2SB1218A-Q	2SB1218A-Q	2SB1218A-Q	XX
Q230	XX	XX	XX	XX	2SB1218A-Q	2SB1218A-Q	2SB1218A-Q	2SB1218A-Q
R202	18k	0	18k	0	18k	0	18k	0
R203	3300	XX	8200	XX	3300	XX	8200	XX
R205	XX	XX	XX	XX	47k	47k	47k	47k
R206	330	330	XX	XX	330	330	XX	XX
R207	XX	XX	XX	XX	47k	47k	47k	47k
R208	XX	XX	XX	XX	2200	2200	2200	2200
R210	0	22k	0	XX	0	22k	0	XX
R211	XX	2200	XX	0	XX	2200	XX	0
R224	XX	XX	XX	XX	XX	XX	XX	XX
R226	XX	XX	10k	10k	XX	XX	10k	10k
R230	XX	XX	1k	1k	XX	XX	1k	1k
R231	2200	2200	2200	2200	2200	2200	2200	2200
R233	XX	XX	XX	XX	XX	XX	XX	XX
R237	XX	XX	XX	XX	XX	XX	XX	XX
R238	0	0	0	0	0	0	0	0
R245	0	0	XX	XX	0	0	XX	XX
R249	3300	3300	1800	1800	3300	3300	1800	1800
R253	XX	XX	XX	XX	XX	XX	XX	XX
R261	XX	XX	47k	47k	XX	XX	47k	47k
R262	XX	XX	22k	22k	XX	XX	22k	22k
R263	4700	4700	XX	XX	4700	4700	XX	XX
R265	470	470	1k	XX	470	470	1k	XX
R268	820	820	560	XX	820	820	560	XX
R270	XX	XX	470	470	XX	XX	470	470
R271	XX	XX	2200	2200	XX	XX	2200	2200
R272	XX	XX	1500	1500	XX	XX	1500	1500
R279	0	0	0	XX	0	0	0	XX
R281	3300	3300	3300	XX	3300	3300	3300	XX
R282	XX	XX	XX	0	XX	XX	XX	0
R283	680	680	680	XX	680	680	680	XX
R284	680	680	680	XX	680	680	680	XX
R286	18k	18k	18k	XX	18k	18k	18k	XX
R287	0	0	0	XX	0	0	0	XX
R289	33k	33k	33k	XX	33k	33k	33k	XX
R290	XX	XX	0	0	XX	XX	0	0

*1

	R245	R246	R272	C247	R270	R271	Q222
NTSC	0	0	XX	XX	XX	XX	XX
PAL	XX	0	1500	100P CH	470	2200	UN5213 -TX
PALM B/W	XX	XX	XX	XX	470	2200	UN5213 -TX
PALM COLOR	0	XX	XX	XX	470	2200	UN5213 -TX

Note
IR : IR-YES
IR-N : IR-NO
510 : STEADY SHOT-NO
760 : STEADY SHOT-YES

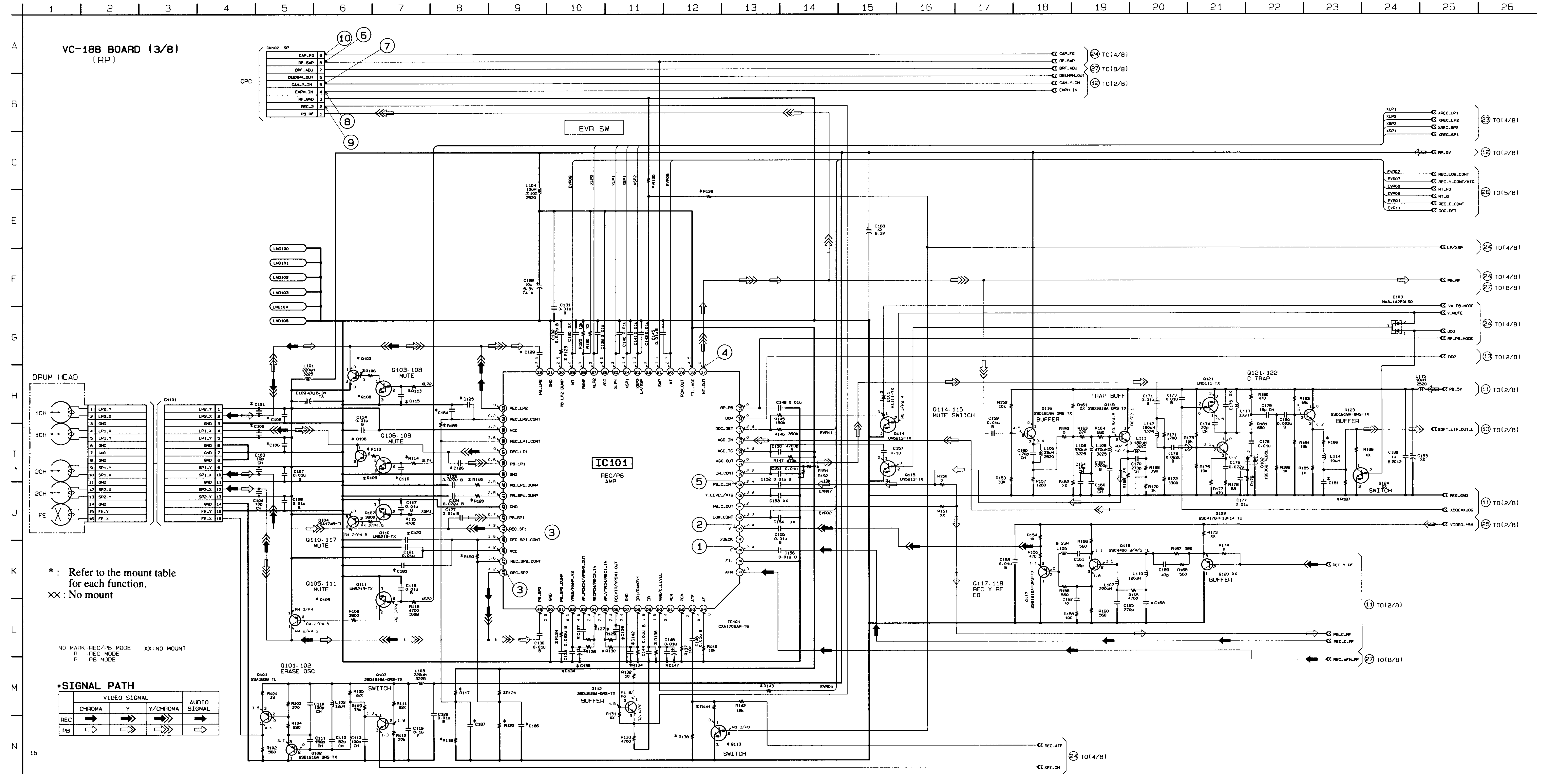
VC-188 BOARD (2/8)



VC-188 (VIDEO) SCHEMATIC DIAGRAM

— Ref. No. VC-188 Board: 1,000 Series —

• See page 4-5 for VC-188 BOARD printed wiring board.

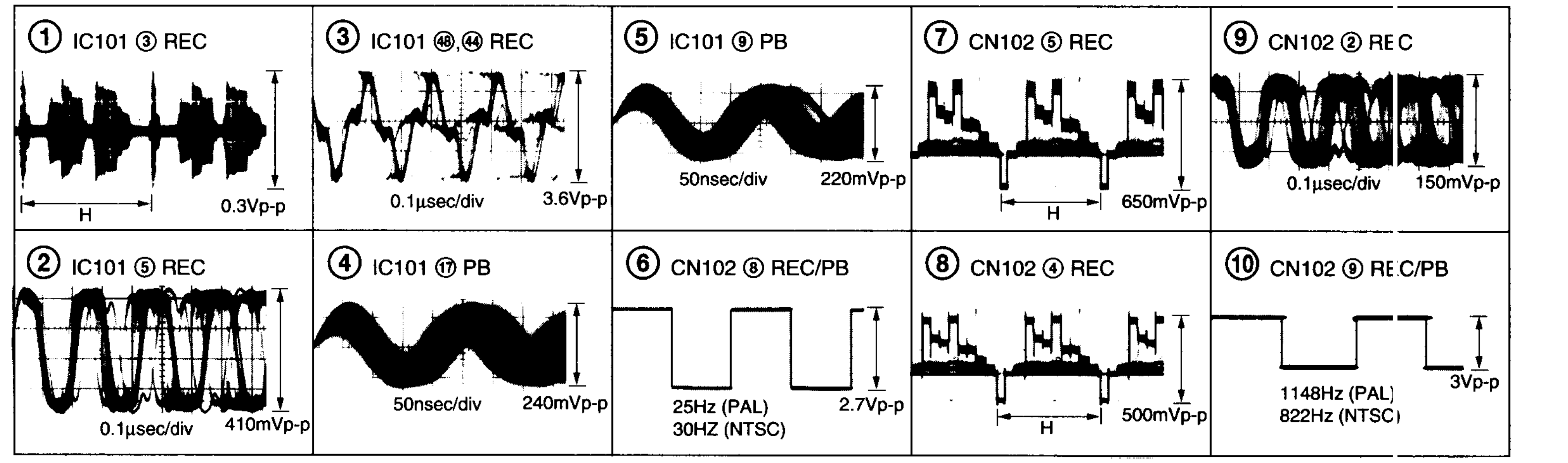

VC-188 BOARD (3/8)
(AP)
EVR SW
IC101
REC/PB AMP
IC101 CXA1782AR-T6
DRUM HEAD
1CH
2CH
FE
CN101
CN102 5P
CPC
Q103, 108 MUTE
Q106, 109 MUTE
Q110, 117 MUTE
Q105, 111 MUTE
Q101, 102 ERASE OSC
Q107 SWITCH
Q112 BUFFER
Q113 SWITCH
Q114, 115 MUTE SWITCH
Q116 BUFFER
TRAP BUFF
Q121, 122 C TRAP
Q123 BUFFER
Q124 SWITCH
Q117, 118 REC Y RF EQ
Q120 BUFFER
TO(4/8)
TO(8/8)
TO(2/8)
TO(5/8)
*: Refer to the mount table for each function.
××: No mount
NO MARK : REC/PB MODE
R : REC MODE
P : PB MODE
XX : NO MOUNT
•SIGNAL PATH
VIDEO SIGNAL
CHROMA
Y
Y/CHROMA
AUDIO SIGNAL
REC
PB
16

⟨Mount table for each function⟩

Ref_No	NTSC/ST	NTSC/MONO	PAL/ST	PAL/MONO
C101	10p	10p	XX	XX
C102	10p	10p	XX	XX
C105	0.01u	0.01u	XX	XX
C106	0.01u	0.01u	XX	XX
C115	0.01u	0.01u	XX	XX
C116	0.01u	0.01u	XX	XX
C120	0.01u	0.01u	0.01u	0.01u
C125	0.01u	0.01u	XX	XX
C126	0.01u	0.01u	XX	XX
C129	0.01u	0.01u	XX	XX
C134	0.01u	0.01u	0.01u	0.01u
C136	10u	10u	10u	10u
C137	XX	XX	XX	XX
C139	330p	330p	330p	330p
C142	0.01u	0.01u	0.01u	0.01u
C147	10u	10u	10u	10u
C168	82p	100p	82p	100p
C181	39p	39p	47p	47p
C184	XX	XX	XX	XX
C185	XX	XX	XX	XX
C186	XX	XX	XX	XX
C187	XX	XX	XX	XX
Q103	2SA1745-TL	2SA1745-TL	XX	XX
Q106	2SA1745-TL	2SA1745-TL	XX	XX
Q108	UN5213-TX	UN5213-TX	XX	XX
Q109	UN5213-TX	UN5213-TX	XX	XX
Q113	XX	XX	UN5213-TX	UN5213-TX
R106	3900	3900	XX	XX
R110	3900	3900	XX	XX
R113	4700	4700	XX	XX
R114	4700	4700	XX	XX
R117	6800	6800	6800	6800
R118	27k	27k	27k	27k
R119	560	560	560	560
R120	560	560	560	560
R121	6800	6800	6800	6800
R122	27k	27k	27k	27k
R123	560	560	560	560
R124	560	560	560	560
R127	XX	XX	XX	XX
R128	XX	XX	XX	XX
R129	0	0	0	0
R130	XX	XX	XX	XX
R134	15k	15k	15k	15k
R135	XX	XX	1k	1k
R136	18k	18k	18k	18k
R139	0	0	XX	XX
R141	XX	XX	8200	8200
R143	XX	XX	XX	XX
R186	100	100	39	39
R187	1500	1500	1800	1800
R189	0	0	XX	XX
R190	0	0	0	0
R191	10k	10k	10k	10k

Note
ST : STEREO

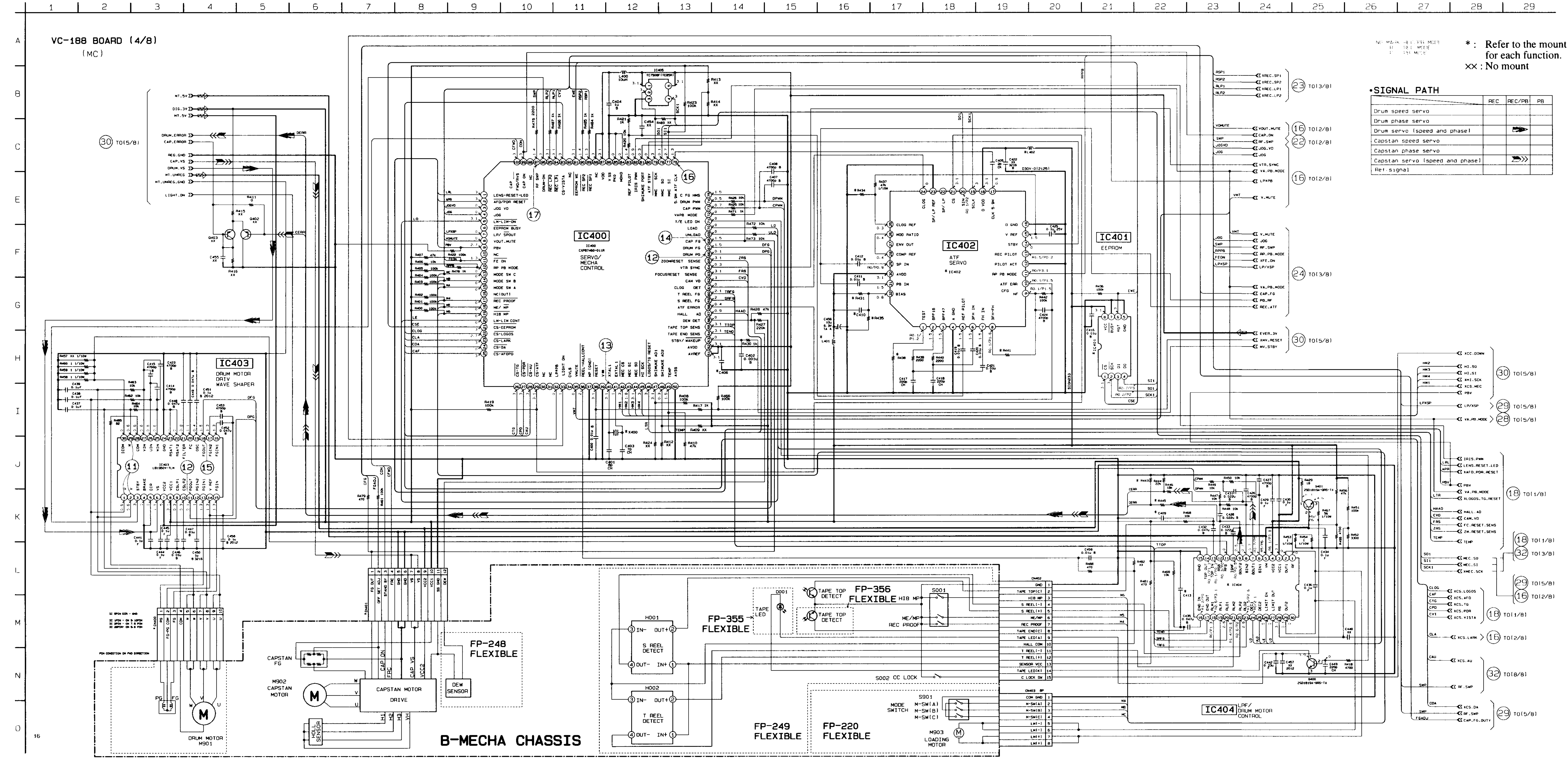
VC-188 BOARD (3/8)



VC-188 (MODE CONTROL), FP-249 (MODE SENSOR) PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM

• See page 4-5 for VC-188 BOARD printed wiring board.

— Ref. No. VC-188 Board; 1,000 Series, FP-249 Board; 5,000 Series —

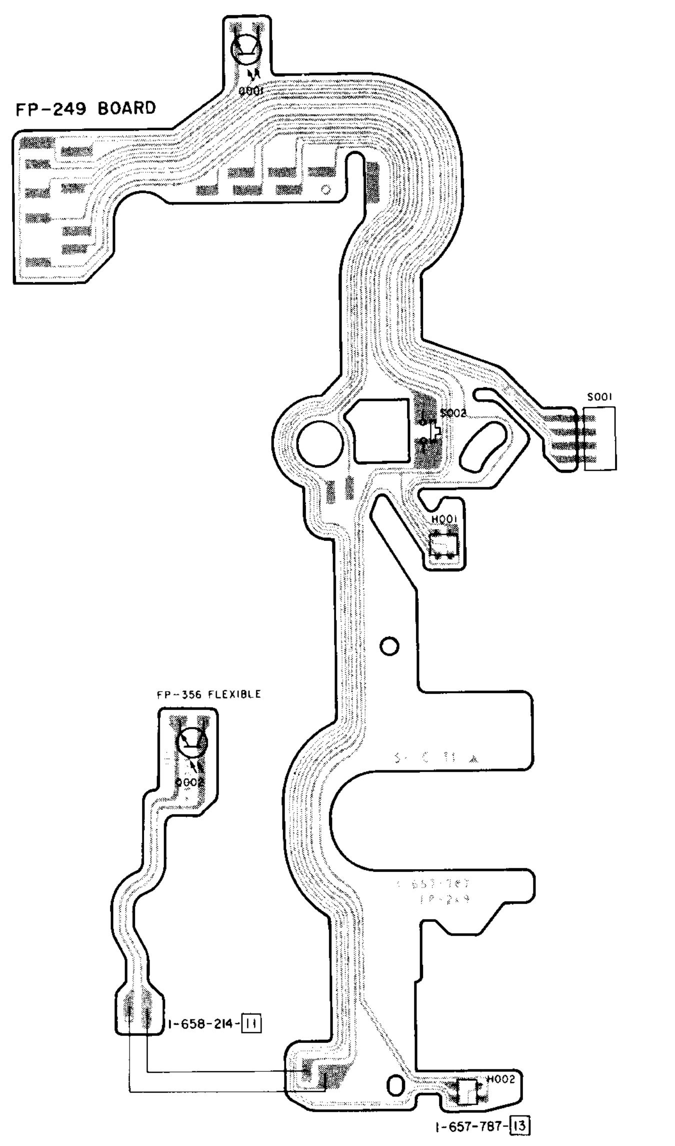

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29
A B C D E F G H I J K L M N O
VC-188 BOARD (4/8)
(MC)
IC400
SERVO/
MECHA
CONTROL
IC402
ATF
SERVO
IC401
EEPROM
IC403
DRUM MOTOR
DRIV
WAVE SHAPER
IC404 LPF/DRUM MOTOR CONTROL
FP-356 FLEXIBLE
FP-355 FLEXIBLE
FP-248 FLEXIBLE
FP-249 FLEXIBLE
FP-220 FLEXIBLE
B-MECHA CHASSIS
TAPE TOP DETECT
TAPE LED
S001
S002 CC LOCK
S901 MODE SWITCH
H001 S REEL DETECT
H002 T REEL DETECT
CAPSTAN FG
M902 CAPSTAN MOTOR
CAPSTAN MOTOR DRIVE
DEW SENSOR
HALL SENSOR
DRUM MOTOR M901
M903 LOADING MOTOR
(30) TO(5/8)
(23) TO(3/8)
(16) TO(2/8)
(22) TO(2/8)
(24) TO(3/8)
(29) TO(5/8)
(28) TO(5/8)
(18) TO(1/8)
(32) TO(3/8)
(16) TO(1/8)
(32) TO(8/8)

NO MARK : REC/PB MODE
R : REC MODE
P : PB MODE

* : Refer to the mount table for each function.
XX : No mount

•SIGNAL PATH

	REC	REC/PB	PB
Drum speed servo			
Drum phase servo			
Drum servo (speed and phase)		➡	
Capstan speed servo			
Capstan phase servo			
Capstan servo (speed and phase)		➡››	
Ref. signal			

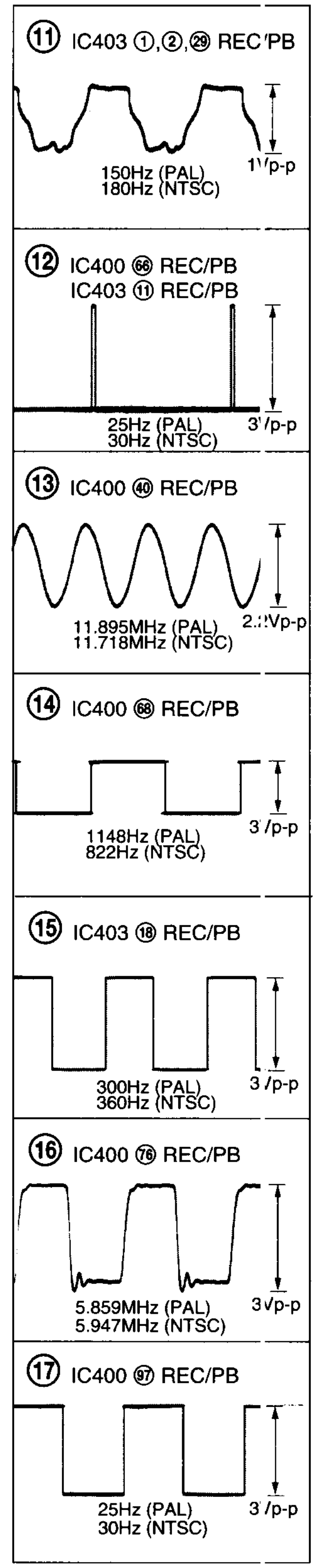

FP-249 BOARD
S001
S003
S901
H002
FP-356 FLEXIBLE
1-658-214-11
1-657-787-13

⟨Mount table for each function⟩

Ref_No	ATFS NT	ATFS PAL	ATFF NT	ATFF PAL	ATFE NT	ATFE PAL
C409	XX	0.001u	XX	0.001u	XX	XX
C410	XX	XX	XX	XX	150p	150p
C413	XX	0.001u	XX	0.001u	XX	XX
IC401	S-29L353AF	S-29L353AF	AK6440AM-E	AK6440AM-E	AK6440AM-E	AK6440AM-E
IC402	CXA1814Q-T	CXA1814Q-T	MB4470APFQ	MB4470APFQ	XR1083ACQ-	XR1083ACQ-
IC404	LB8112V-TL	TA8482FN-E	LB8112V-TL	TA8482FN-E	LB8112V-TL	LB8112V-TL
L401	47uH	47uH	10uH	10uH	10uH	10uH
L402	XX	XX	0	0	0	0
R431	XX	XX	XX	XX	100k	100k
R434	15k	15k	4700	4700	15k	15k
R435	XX	XX	0	0	XX	XX
R438	0	0	XX	XX	100k	100k
R441	22k	22k	22k	22k	33k	33k
R443	22k	XX	22k	XX	22k	22k
R445	10k	0	10k	0	10k	10k
X400	11.895104M	11.71875MH	11.895104M	11.71875MH	11.895104M	11.71875MH

Note
NT : NTSC
ATFS : IC402 of S Type
ATFF : IC402 of F Type
ATFE : IC402 of E Type

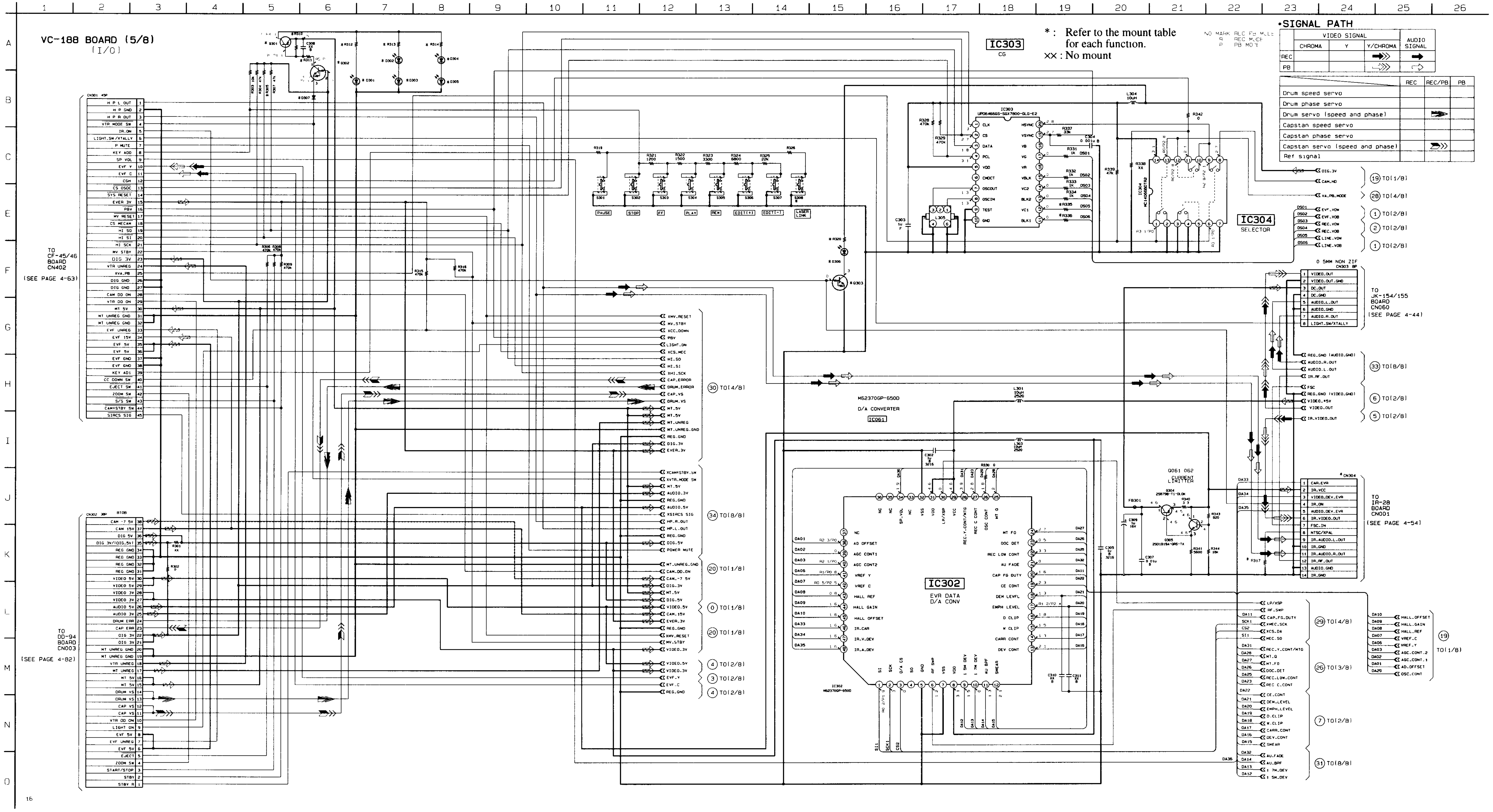
VC-188 BOARD (4/3)



VC-188 (IN/OUT) SCHEMATIC DIAGRAM

— Ref. No VC-188 Board; 1,000 Series —

• See page 4-5 for VC-188 BOARD printed wiring board.

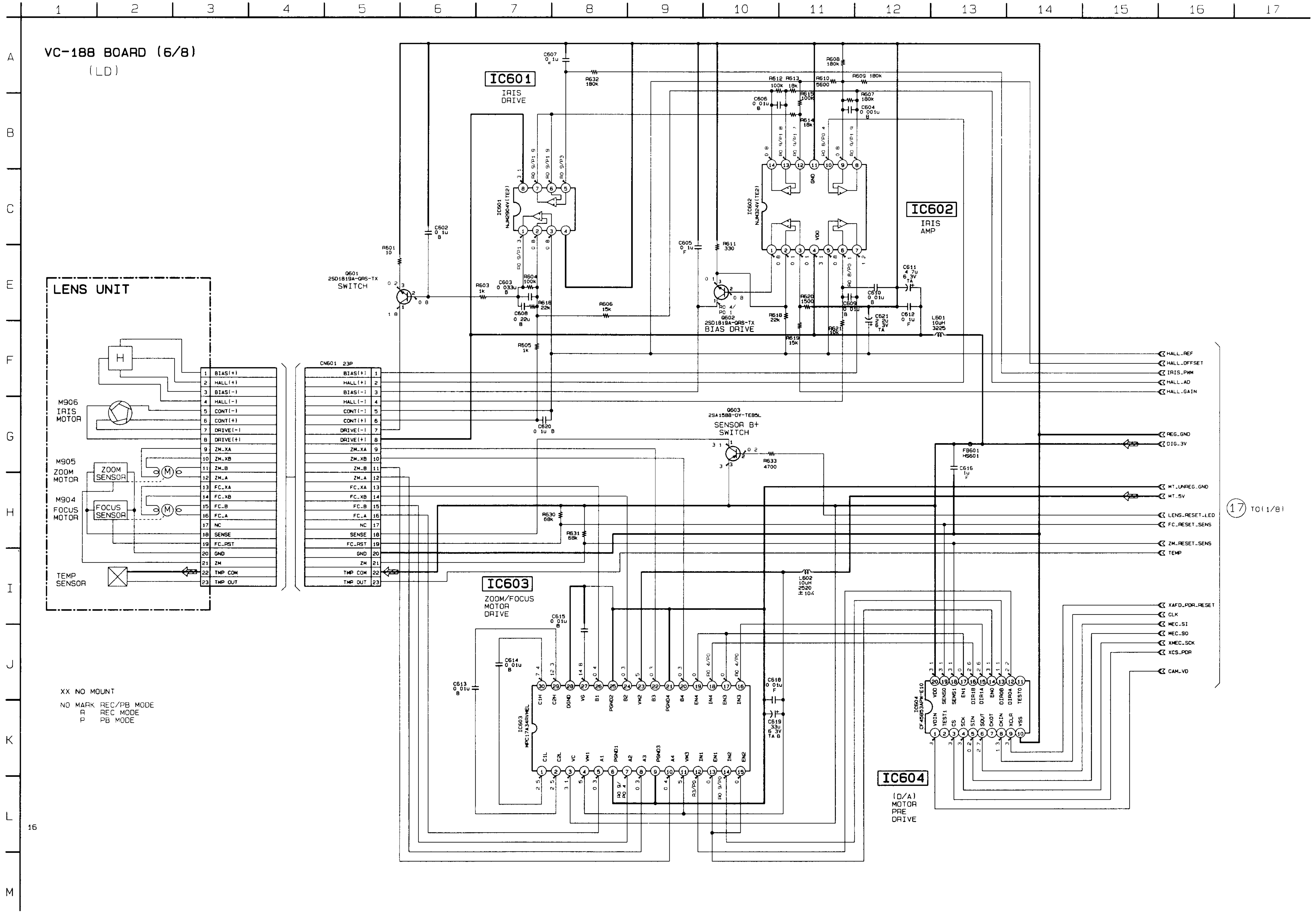

VC-188 BOARD (5/8)
[I/O]
*: Refer to the mount table for each function.
xx : No mount
NO MARK REC PB MODE
R REC MODE
P PB MODE
•SIGNAL PATH
VIDEO SIGNAL
CHROMA
Y
Y/CHROMA
AUDIO SIGNAL
REC
PB
REC/PB
Drum speed servo
Drum phase servo
Drum servo (speed and phase)
Capstan speed servo
Capstan phase servo
Capstan servo (speed and phase)
Ref signal
IC303
CG
IC304
SELECTOR
IC302
EVR DATA D/A CONV
M62370GP-6500
D/A CONVERTER
IC061
Q061 062
CURRENT LIMITTER
TO CF-45/46 BOARD CN402 (SEE PAGE 4-63)
TO DD-94 BOARD CN003 (SEE PAGE 4-82)
TO JK-154/155 BOARD CN060 (SEE PAGE 4-44)
TO IR-28 BOARD CN001 (SEE PAGE 4-54)
PAUSE
STOP
FF
PLAY
REW
EDIT(+)
EDIT(-)
LASER LINK

⟨Mount table for each function⟩

Ref_No	NO IR NTSC/PAL	IR NTSC
CN304	XX	14P
D301	TLYU1002	TLYU1002
D302	TLYU1002	TLYU1002
D303	TLYU1002	TLYU1002
D304	TLYU1002	TLYU1002
D305	TLYU1002	TLYU1002
D306	XX	TLSU1002
D307	MA111-TX	MA111-TX
Q301	2SB1295-UL	2SB1295-UL
Q302	UN5213-TX	UN5213-TX
Q303	XX	UN5213-TX
R310	47k	47k
R311	470	470
R312	150	150
R313	47	47
R314	47	47
R317	XX	XX
R320	XX	150
R335	XX	XX
R336	XX	XX
S308	XX	XX

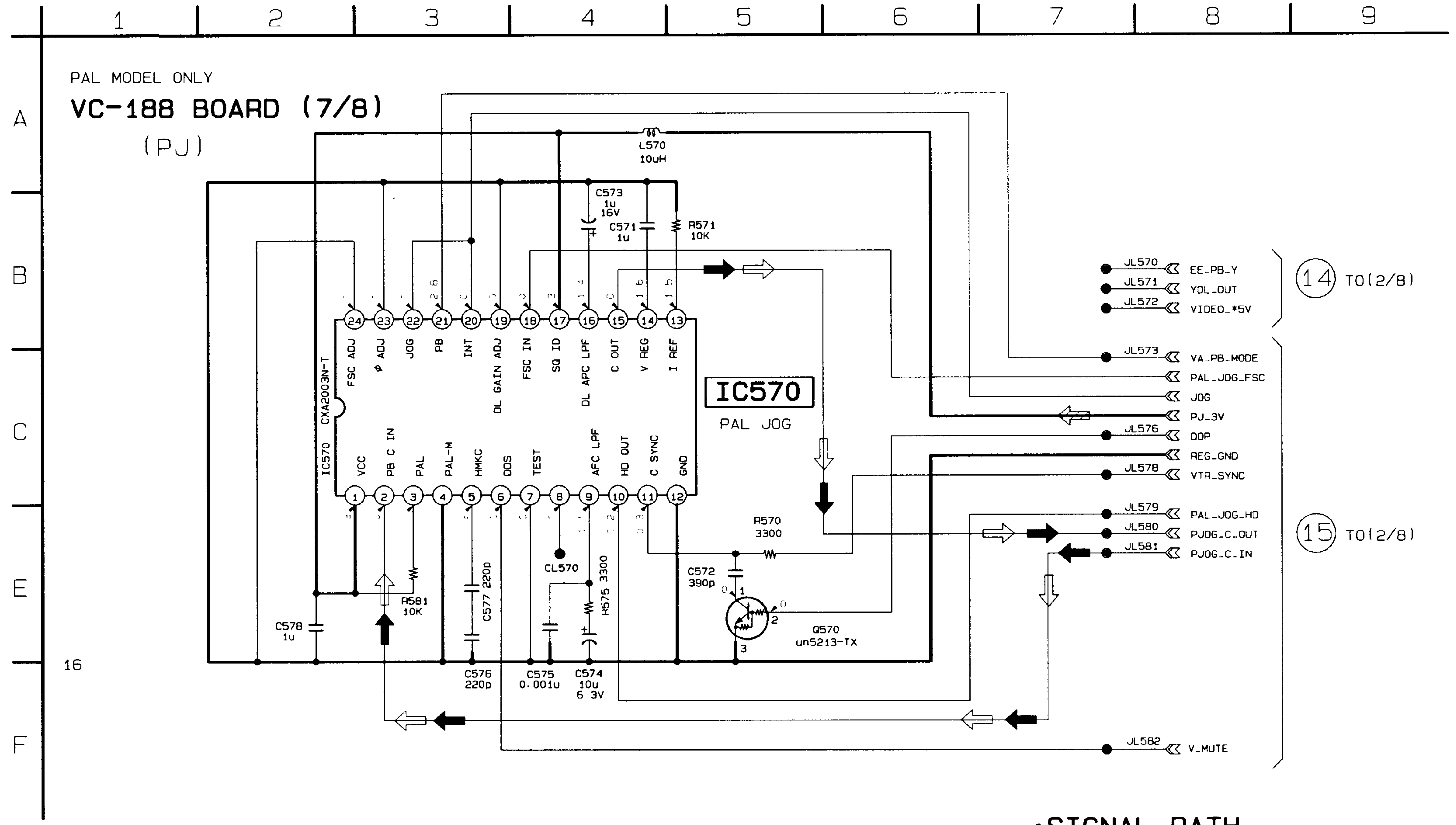
VC-188 (LD) SCHEMATIC DIAGRAM
— Ref. No. VC-188 Board, 1,000 Series —

• See page 4-5 for VC-188 BOARD printed wiring board


VC-188 BOARD (6/8)
(LD)
LENS UNIT
M906 IRIS MOTOR
M905 ZOOM MOTOR
M904 FOCUS MOTOR
ZOOM SENSOR
FOCUS SENSOR
TEMP SENSOR
H
M
1 BIAS(+)
2 HALL(+)
3 BIAS(-)
4 HALL(-)
5 CONT(-)
6 CONT(+)
7 DRIVE(-)
8 DRIVE(+)
9 ZM_XA
10 ZM_XB
11 ZM_B
12 ZM_A
13 FC_XA
14 FC_XB
15 FC_B
16 FC_A
17 NC
18 SENSE
19 FC_RST
20 GND
21 ZM
22 TMP COM
23 TMP OUT
CN601 23P
Q601 2SD1819A-QRS-TX SWITCH
R601 10
C602 0.1u B
IC601 IRIS DRIVE
IC601 NJM2904V(TE2)
C607 0.1u
R632 180K
R603 1k
C603 0.033u B
R604 100k
R616 22k
C608 0.22u B
R606 15k
R605 1k
C620 0.1u B
C605 0.1u F
R611 330
Q602 2SD1819A-QRS-TX BIAS DRIVE
IC602 IRIS AMP
IC602 NJM324V(TE2)
R612 100k
R613 18k
R610 5600
R609 180k
R608 180k
R607 180k
C604 0.001u B
C606 0.01u B
R615 100K
R614 18k
R618 22k
R620 1500
R619 15k
R621 10k
C609 0.01u B
C610 0.01u B
C611 4.7u 6.3V TA
C621 2.2u 6.3V TA
C612 0.1u F
L601 10uH 3225
GND
VDD
Q603 2SA1588-OY-TE85L SENSOR B+ SWITCH
R633 4700
FB601 HS601
C616 1u F
R630 68k
R631 68k
L602 10uH 2520 ±10%
IC603 ZOOM/FOCUS MOTOR DRIVE
IC603 MPC17A34RVMEL
C613 0.01u B
C614 0.01u B
C615 0.01u B
C618 0.01u F
C619 33u 6.3V TA B
C1H C2H DGND VG B1 PGND2 B2 VM2 B3 PGND4 B4 EN4 IN4 EN3 IN3
C1L C2L VC VM1 A1 PGND1 A2 A3 PGND3 A4 VM3 IN1 EN1 IN2 EN2
IC604 (D/A) MOTOR PRE DRIVE
IC604 CF45853APW-E10
VDD SENS0 SENS1 EN1 DIR1B DIR1A EN0 DIR0B DIR0A TEST0
VDIN TEST1 CS SCK SIN SOUT CKOT CKIN XCLR VSS
HALL_REF
HALL_OFFSET
IRIS_PWM
HALL_AD
HALL_GAIN
REG_GND
DIG_3V
MT_UNREG_GND
MT_5V
LENS_RESET_LED
FC_RESET_SENS
ZM_RESET_SENS
TEMP
XAFD_PDR_RESET
CLK
MEC_SI
MEC_SO
XMEC_SCK
XCS_PDR
CAM_VD
(17) TO(1/8)
XX NO MOUNT
NO MARK REC/PB MODE
R REC MODE
P PB MODE
16
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
A B C D E F G H I J K L M

VC-188 (PJ) SCHEMATIC DIAGRAM
— Ref. No. VC-188 Board, 1,000 Series —

• See page 4-5 for VC-188 BOARD printed wiring board.

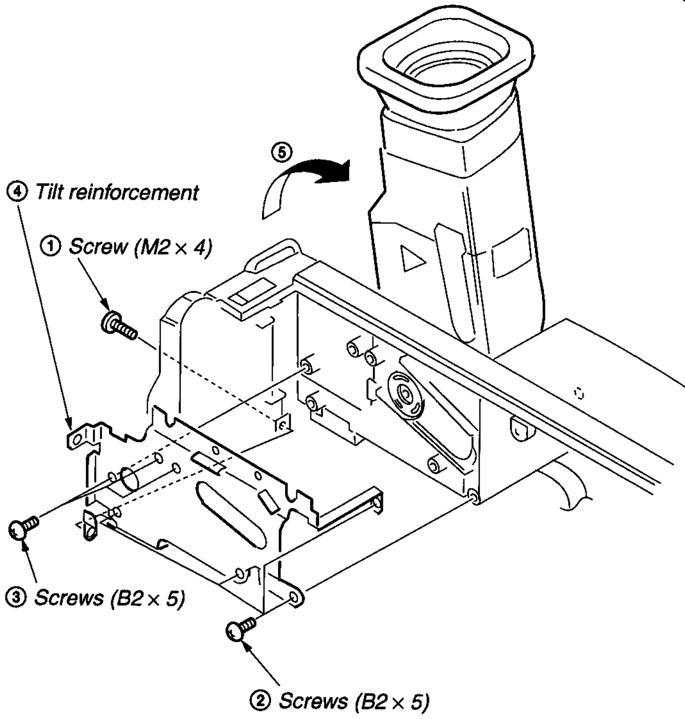

PAL MODEL ONLY
VC-188 BOARD (7/8)
(PJ)
IC570 PAL JOG
IC570 CXA2003N-T
FSC ADJ
φ ADJ
JOG
PB
INT
DL GAIN ADJ
FSC IN
SQ ID
DL APC LPF
C OUT
V REG
I REF
VCC
PB C IN
PAL
PAL-M
HMKC
DDS
TEST
AFC LPF
HD OUT
C SYNC
GND
L570 10uH
C573 1u 16V
C571 1u
R571 10K
R570 3300
C572 390p
Q570 un5213-TX
R581 10K
C577 220p
CL570
R575 3300
C578 1u
C576 220p
C575 0.001u
C574 10u 6.3V
JL570 EE_PB_Y
JL571 YDL_OUT
JL572 VIDEO_*5V
(14) TO(2/8)
JL573 VA_PB_MODE
PAL_JOG_FSC
JOG
PJ_3V
JL576 DOP
REG_GND
JL578 VTR_SYNC
JL579 PAL_JOG_HD
JL580 PJOG_C_OUT
JL581 PJOG_C_IN
(15) TO(2/8)
JL582 V_MUTE
16
1 2 3 4 5 6 7 8 9
A B C D E F

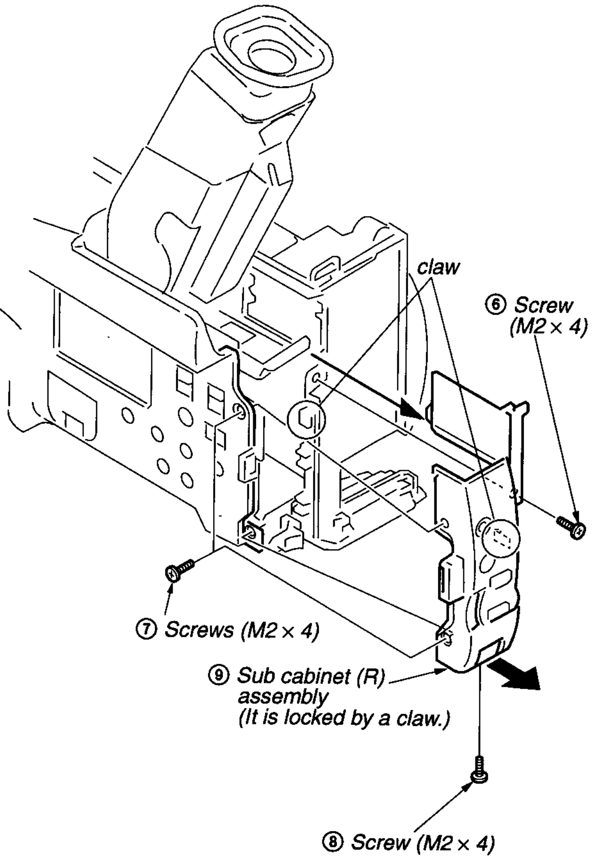
NO MARK REC/PB MODE
R REC MODE
P PB MODE

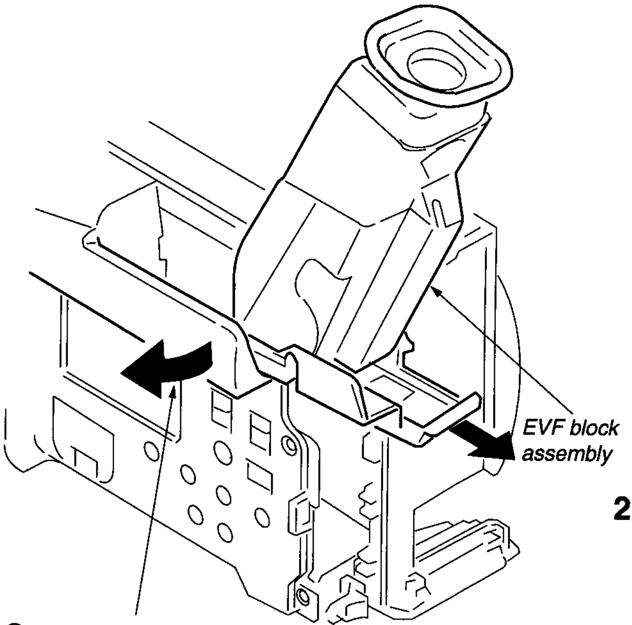
•SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡			
PB	⇨			

2-8(1).REMOVAL OF EVF BLOCK ASSEMBLY (EXCEPT TRV14E/TRV24E MODEL)

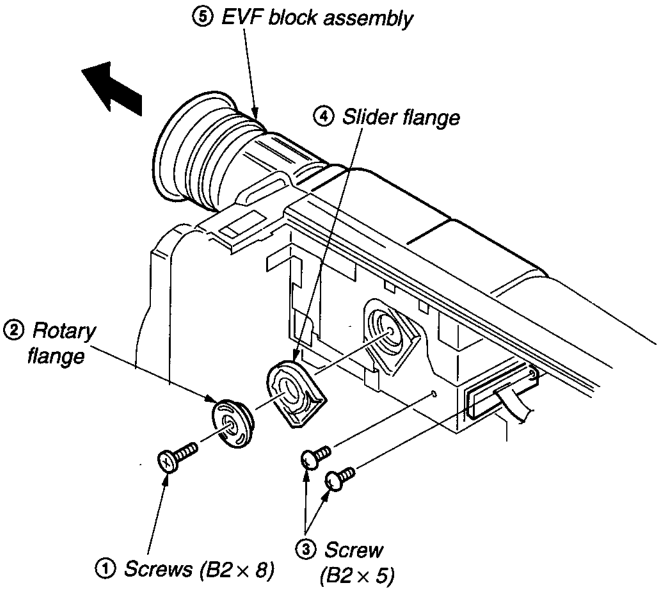

⑤
④ Tilt reinforcement
① Screw (M2 × 4)
③ Screws (B2 × 5)
② Screws (B2 × 5)


claw
⑥ Screw (M2 × 4)
⑦ Screws (M2 × 4)
⑨ Sub cabinet (R) assembly (It is locked by a claw.)
⑧ Screw (M2 × 4)

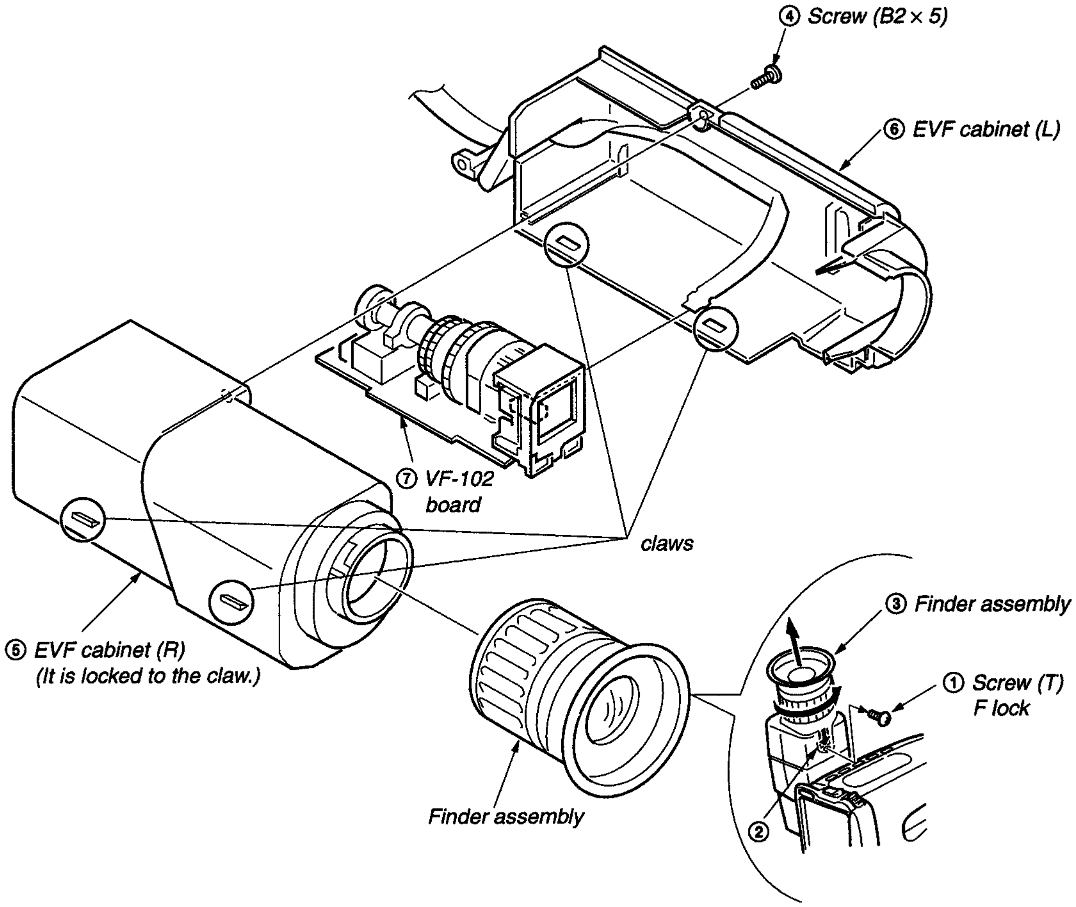

EVF block assembly

⑩ Remove the EVF block assembly by opening here slightly in the direction af arrow.

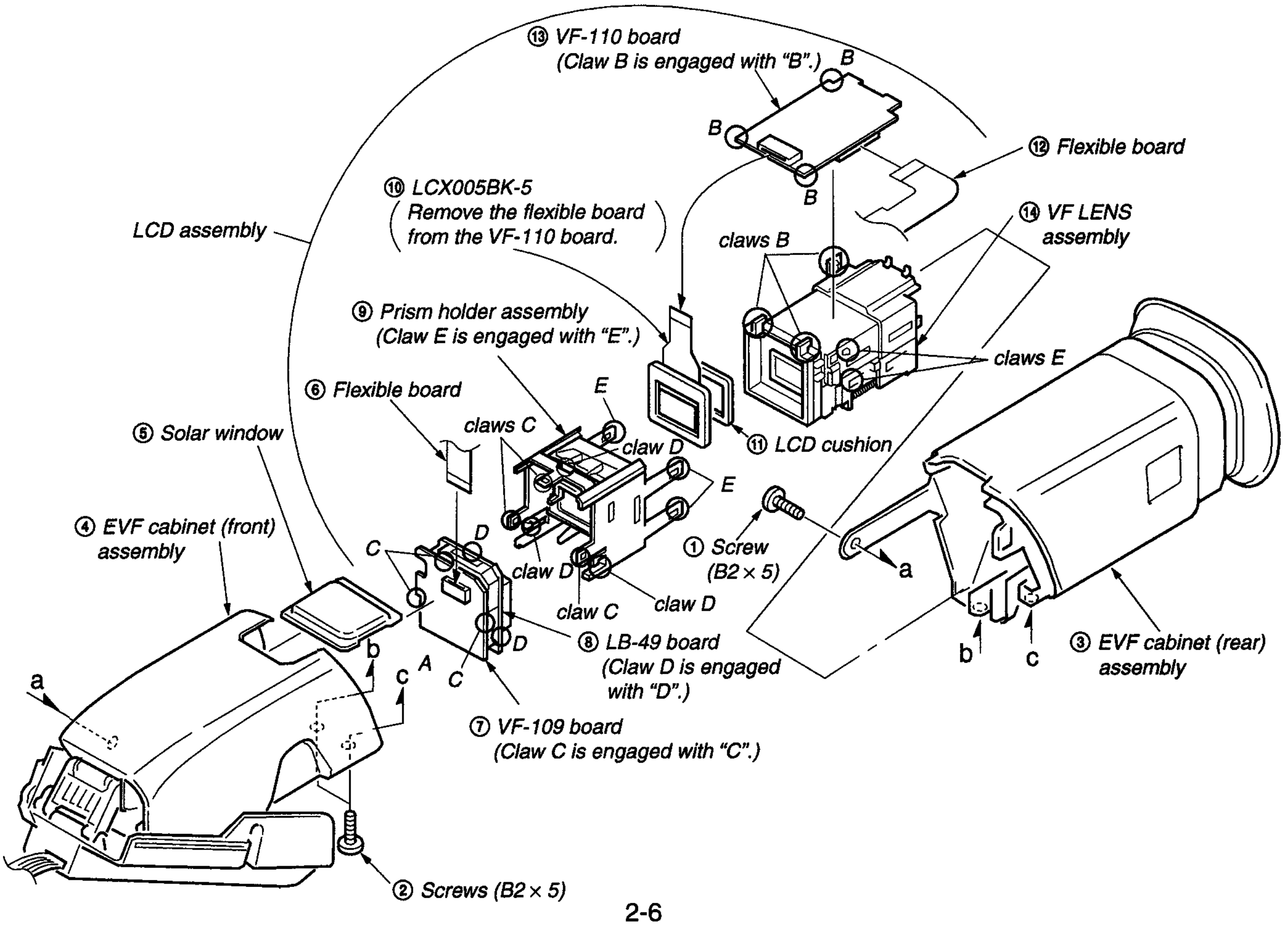
2-8(2).REMOVAL OF EVF BLOCK ASSEMBLY (TRV14E/TRV24E MODEL)


⑤ EVF block assembly
④ Slider flange
② Rotary flange
① Screws (B2 × 8)
③ Screw (B2 × 5)

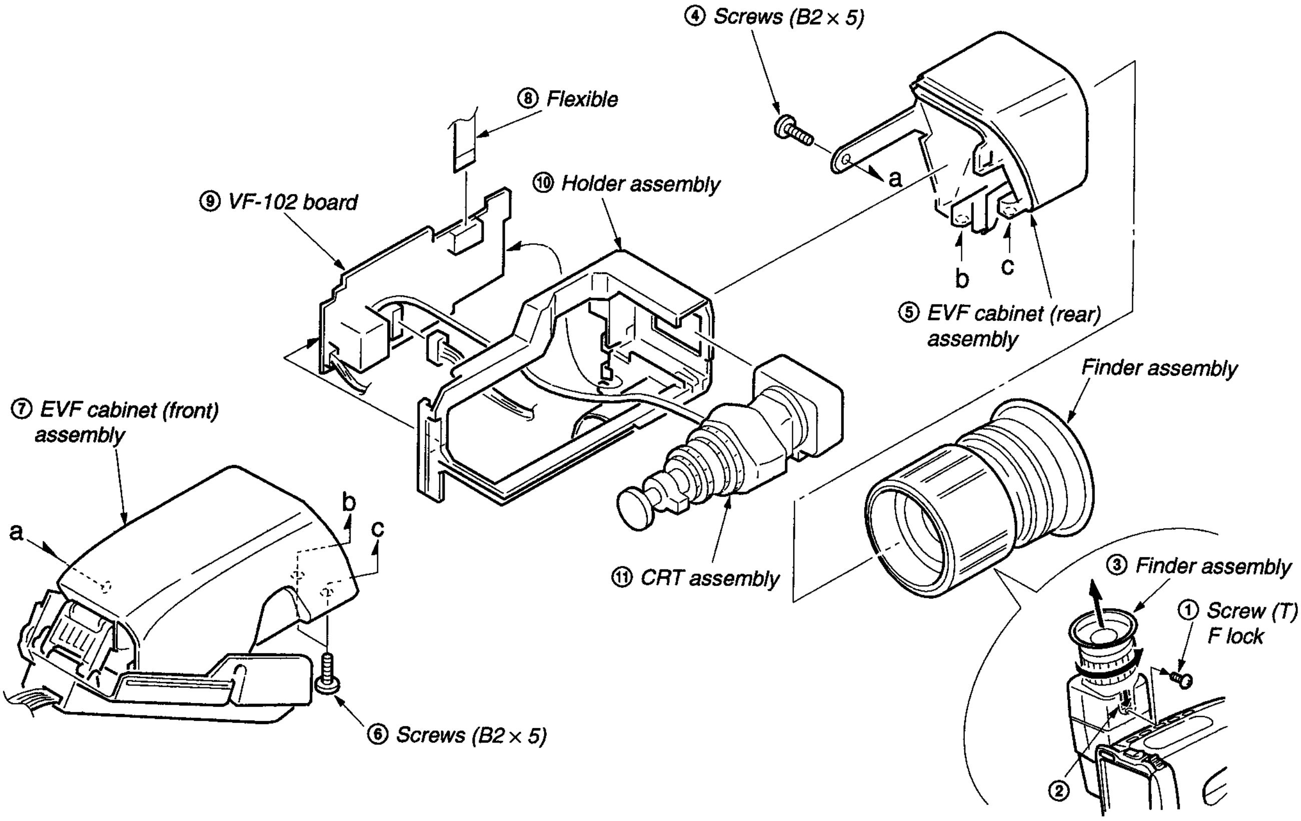
2-9(1).REMOVAL OF EVF CABINET and VF-102 BOARD (TRV14E/TRV24E MODEL)


④ Screw (B2 × 5)
⑥ EVF cabinet (L)
⑦ VF-102 board
claws
⑤ EVF cabinet (R) (It is locked to the claw.)
③ Finder assembly
① Screw (T) F lock
②
Finder assembly

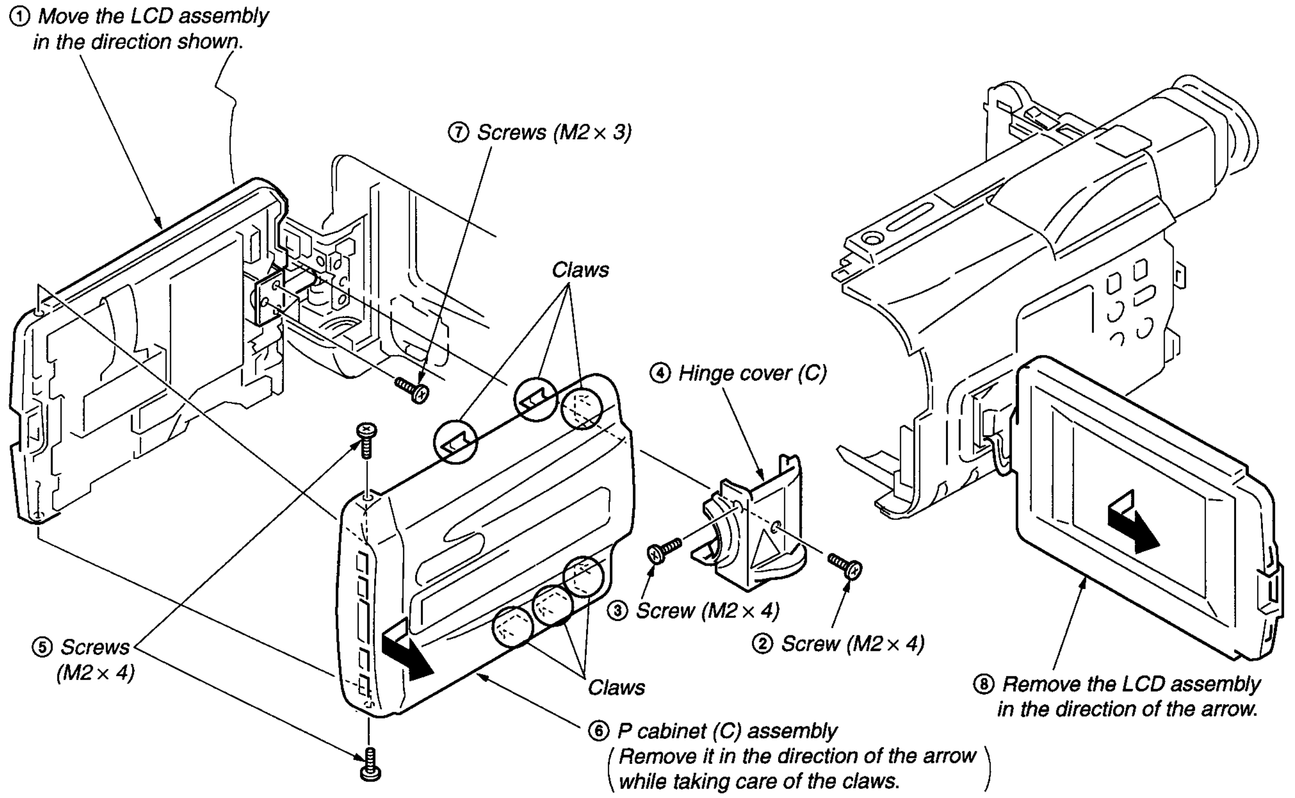
2-9(2).REMOVAL OF EVF CABINET, VF-109, LB-49 and VF-110 BOARD (TRV53 MODEL)


⑬ VF-110 board (Claw B is engaged with "B".)
B
B
B
⑫ Flexible board
⑩ LCX005BK-5 (Remove the flexible board from the VF-110 board.)
LCD assembly
claws B
⑭ VF LENS assembly
⑨ Prism holder assembly (Claw E is engaged with "E".)
claws E
⑥ Flexible board
E
⑤ Solar window
claws C
claw D
⑪ LCD cushion
E
④ EVF cabinet (front) assembly
D
C
① Screw (B2 × 5)
claw D
a
claw C
claw D
D
⑧ LB-49 board (Claw D is engaged with "D".)
a
b
c
A
C
b
c
③ EVF cabinet (rear) assembly
⑦ VF-109 board (Claw C is engaged with "C".)
② Screws (B2 × 5)

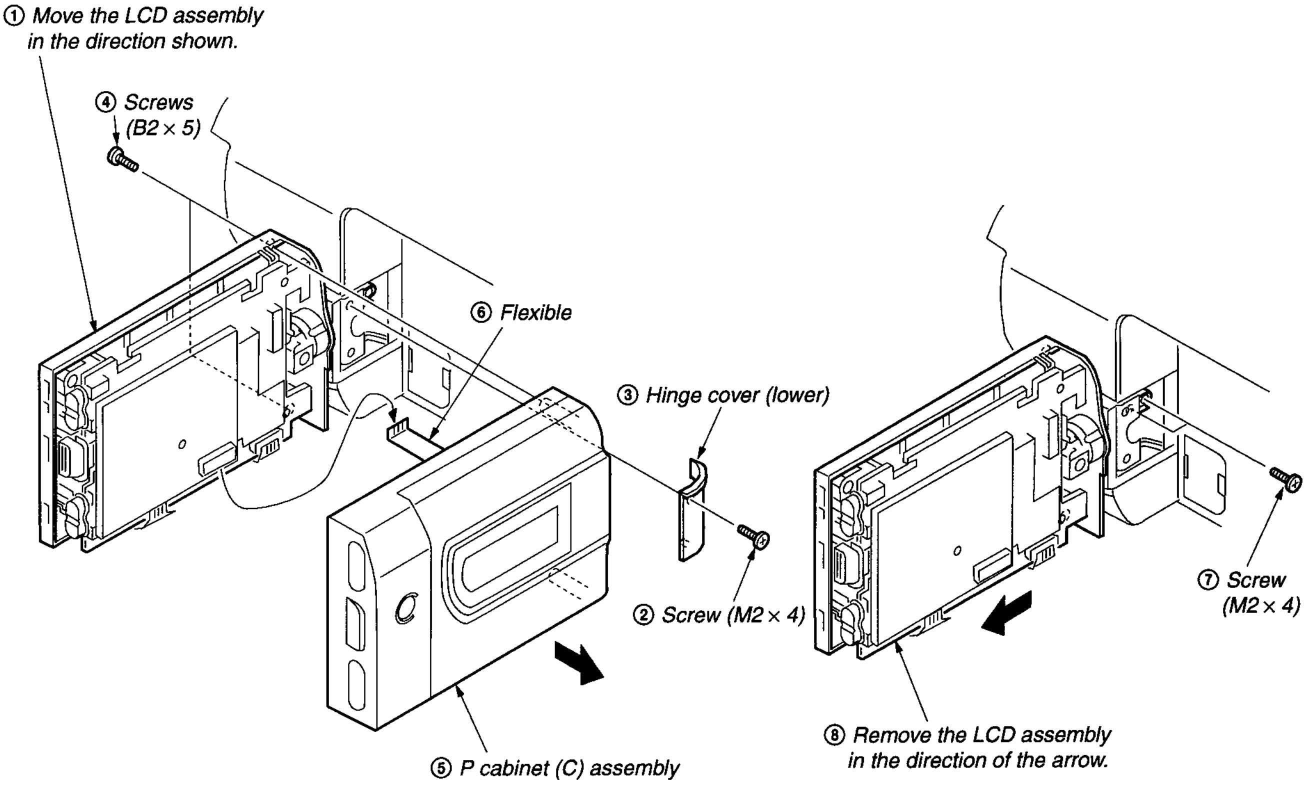
2-9(3).REMOVAL OF EVF CABINET and VF-102 BOARD (EXCEPT TRV53/TRV14E/TRV24E MODEL)


④ Screws (B2 × 5)
⑧ Flexible
⑩ Holder assembly
⑨ VF-102 board
a
b
c
⑤ EVF cabinet (rear) assembly
Finder assembly
⑦ EVF cabinet (front) assembly
a
b
c
⑪ CRT assembly
③ Finder assembly
① Screw (T) F lock
②
⑥ Screws (B2 × 5)

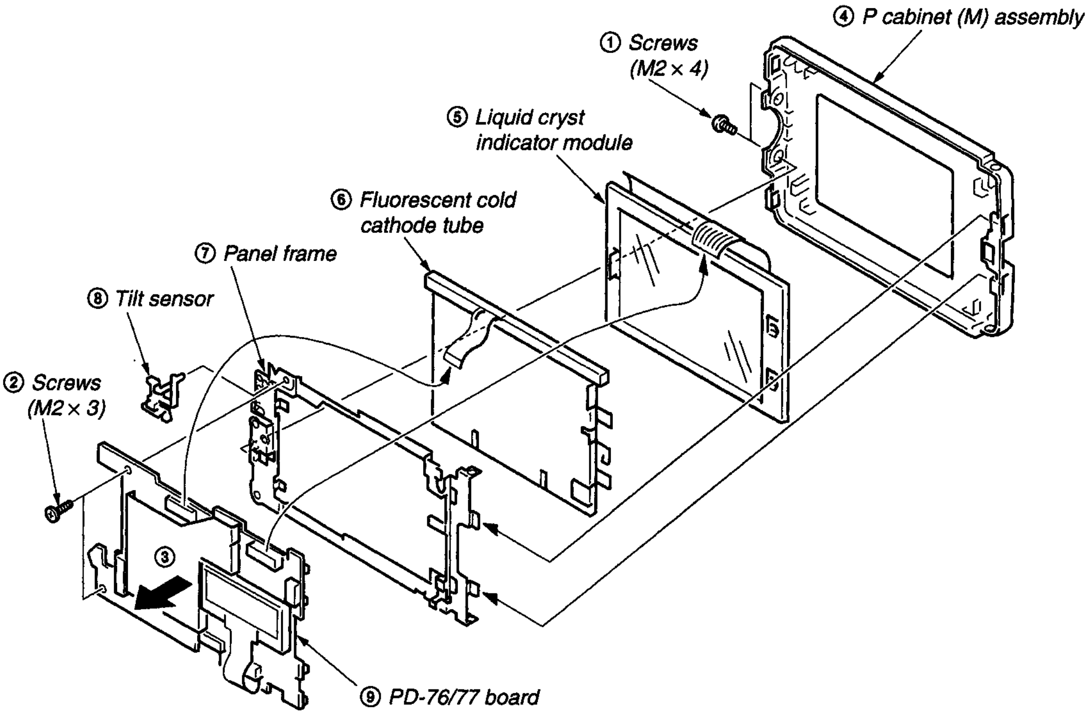
2-10(1). REMOVAL OF P CABINET AND LCD ASSEMBLY (EXCEPT TRV14E/TRV24E MODEL)


① Move the LCD assembly in the direction shown.
⑦ Screws (M2 × 3)
Claws
④ Hinge cover (C)
③ Screw (M2 × 4)
② Screw (M2 × 4)
⑤ Screws (M2 × 4)
Claws
⑧ Remove the LCD assembly in the direction of the arrow.
⑥ P cabinet (C) assembly
(Remove it in the direction of the arrow while taking care of the claws.)

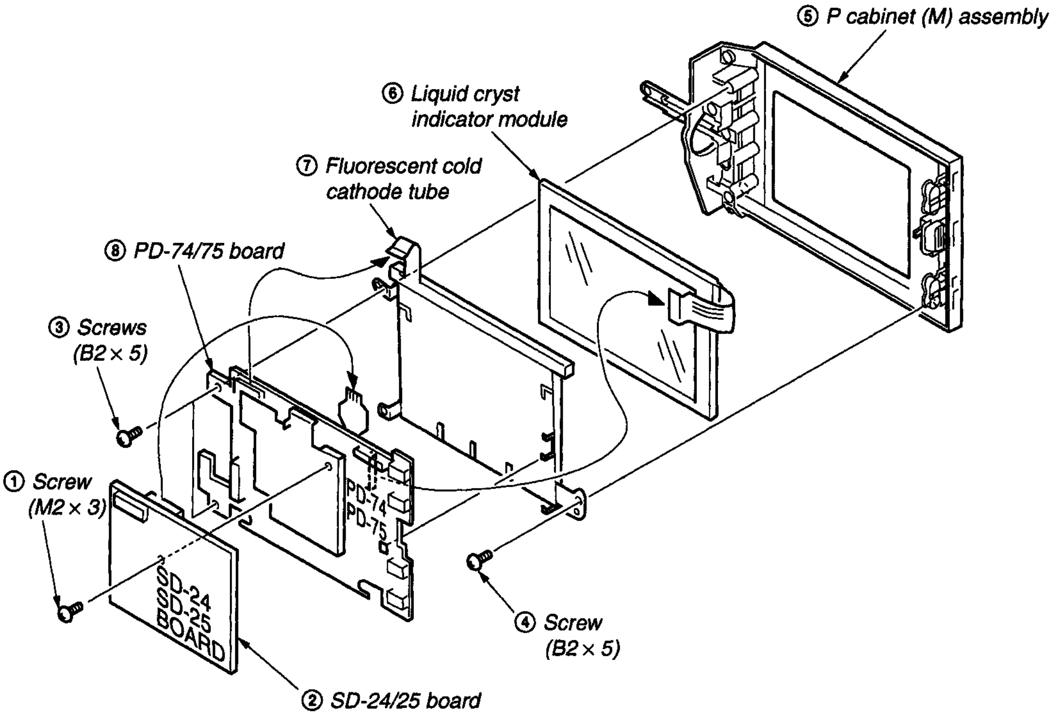
2-10(2). REMOVAL OF P CABINET AND LCD ASSEMBLY (TRV14E/TRV24E MODEL)


① Move the LCD assembly in the direction shown.
④ Screws (B2 × 5)
⑥ Flexible
③ Hinge cover (lower)
② Screw (M2 × 4)
⑦ Screw (M2 × 4)
⑧ Remove the LCD assembly in the direction of the arrow.
⑤ P cabinet (C) assembly

2-11(1). REMOVAL OF PD-76/77 BOARD (EXCEPT TRV14E/TRV24E MODEL)

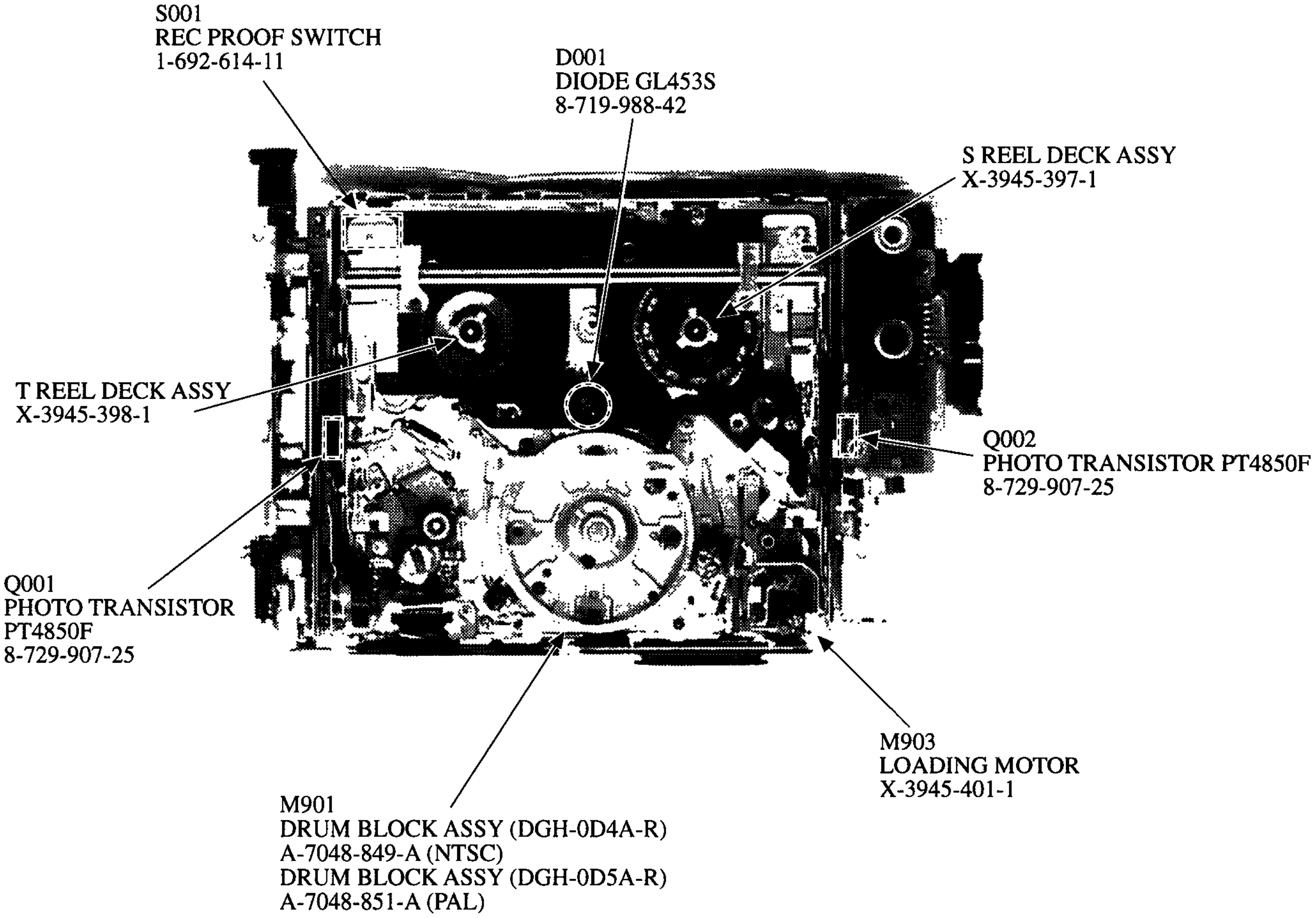

④ P cabinet (M) assembly
① Screws (M2 × 4)
⑤ Liquid cryst indicator module
⑥ Fluorescent cold cathode tube
⑦ Panel frame
⑧ Tilt sensor
② Screws (M2 × 3)
③
⑨ PD-76/77 board

2-11(2). REMOVAL OF SD-24/25 AND PD-74/75 BOARD (TRV14E/TRV24E MODEL)

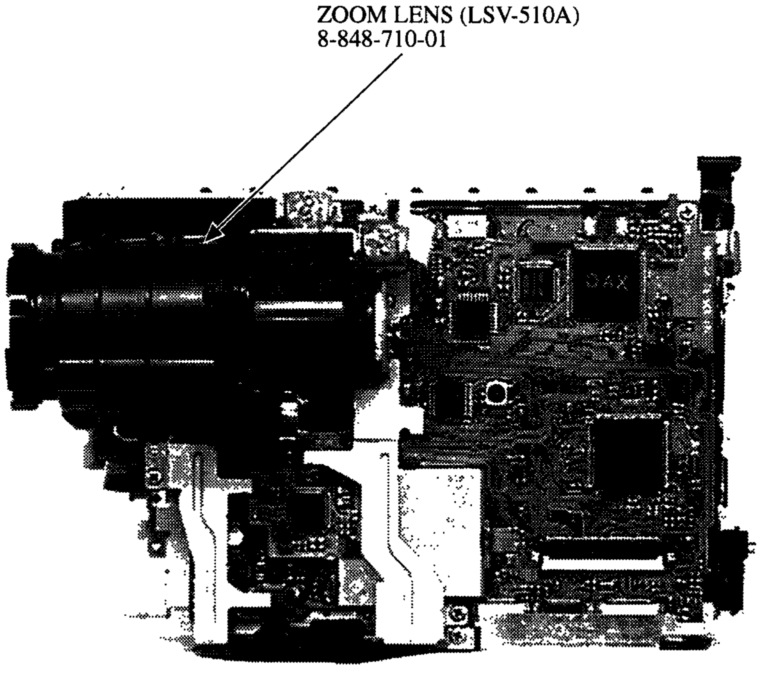

⑤ P cabinet (M) assembly
⑥ Liquid cryst indicator module
⑦ Fluorescent cold cathode tube
⑧ PD-74/75 board
③ Screws (B2 × 5)
① Screw (M2 × 3)
PD-74
PD-75
SD-24
SD-25
BOARD
④ Screw (B2 × 5)
② SD-24/25 board

2-12. INTERNAL VIEWS

— LEFT SIDE —

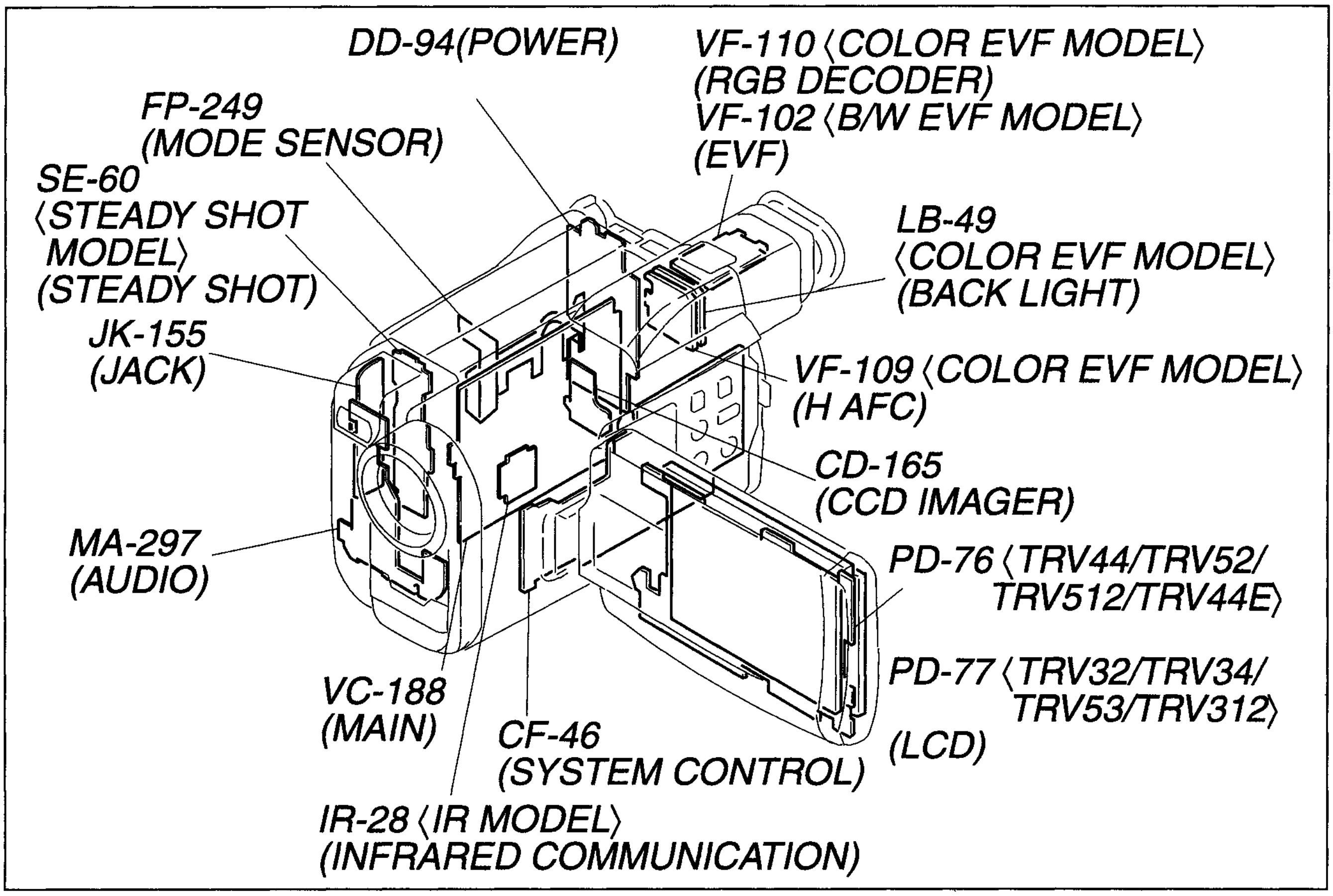

S001
REC PROOF SWITCH
1-692-614-11
D001
DIODE GL453S
8-719-988-42
S REEL DECK ASSY
X-3945-397-1
T REEL DECK ASSY
X-3945-398-1
Q002
PHOTO TRANSISTOR PT4850F
8-729-907-25
Q001
PHOTO TRANSISTOR
PT4850F
8-729-907-25
M903
LOADING MOTOR
X-3945-401-1
M901
DRUM BLOCK ASSY (DGH-0D4A-R)
A-7048-849-A (NTSC)
DRUM BLOCK ASSY (DGH-0D5A-R)
A-7048-851-A (PAL)

— RIGHT SIDE —

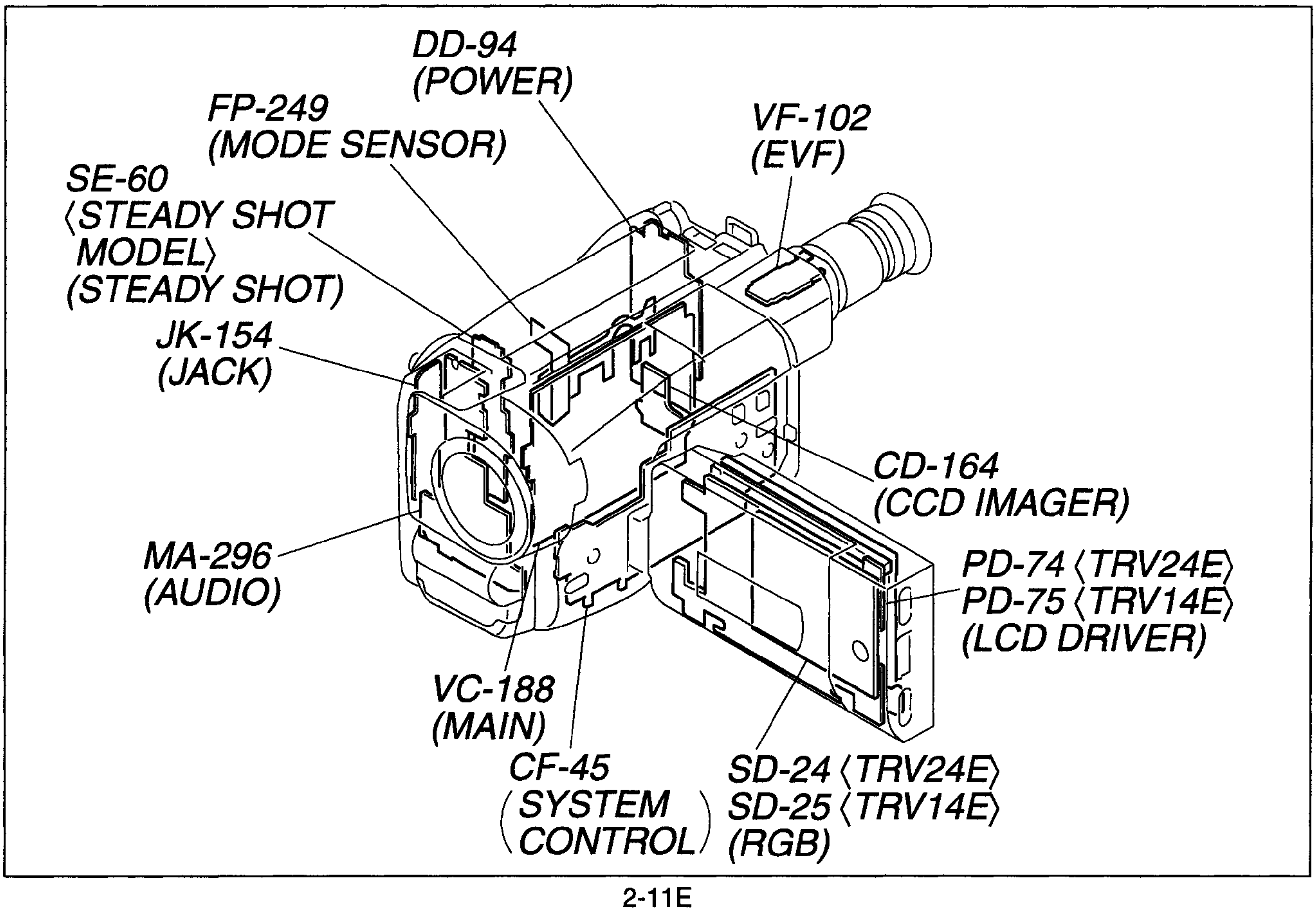

ZOOM LENS (LSV-510A)
8-848-710-01

2-13. CIRCUIT BOARDS LOCATION

EXCEPT TRV14E/TRV24E MODEL

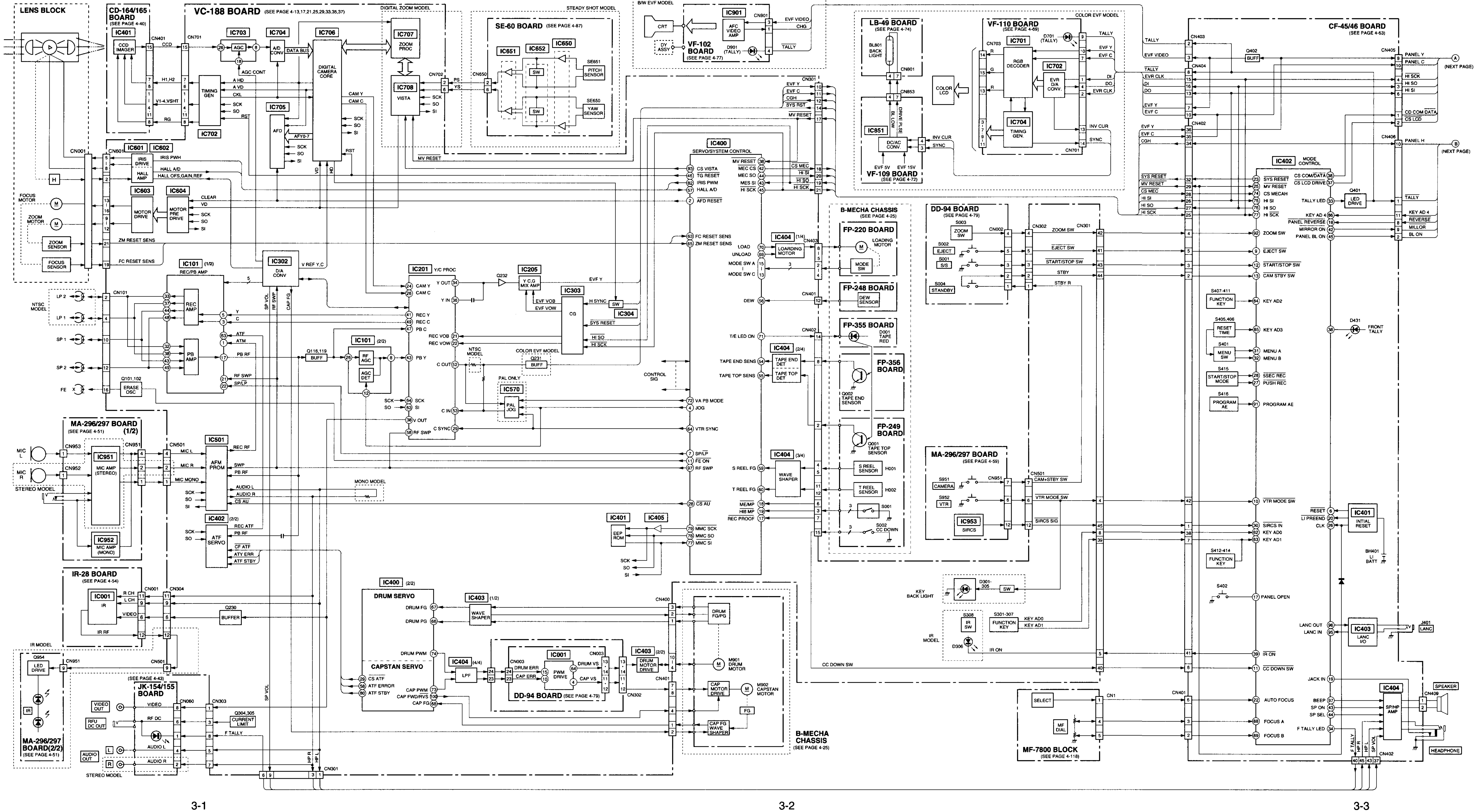

DD-94(POWER)
VF-110 ⟨COLOR EVF MODEL⟩ (RGB DECODER)
VF-102 ⟨B/W EVF MODEL⟩ (EVF)
FP-249 (MODE SENSOR)
SE-60 ⟨STEADY SHOT MODEL⟩ (STEADY SHOT)
LB-49 ⟨COLOR EVF MODEL⟩ (BACK LIGHT)
JK-155 (JACK)
VF-109 ⟨COLOR EVF MODEL⟩ (H AFC)
CD-165 (CCD IMAGER)
MA-297 (AUDIO)
PD-76 ⟨TRV44/TRV52/TRV512/TRV44E⟩
PD-77 ⟨TRV32/TRV34/TRV53/TRV312⟩
(LCD)
VC-188 (MAIN)
CF-46 (SYSTEM CONTROL)
IR-28 ⟨IR MODEL⟩ (INFRARED COMMUNICATION)

TRV14E/TRV24E MODEL


DD-94 (POWER)
FP-249 (MODE SENSOR)
VF-102 (EVF)
SE-60 ⟨STEADY SHOT MODEL⟩ (STEADY SHOT)
JK-154 (JACK)
CD-164 (CCD IMAGER)
MA-296 (AUDIO)
PD-74 ⟨TRV24E⟩
PD-75 ⟨TRV14E⟩
(LCD DRIVER)
VC-188 (MAIN)
CF-45 (SYSTEM CONTROL)
SD-24 ⟨TRV24E⟩
SD-25 ⟨TRV14E⟩
(RGB)

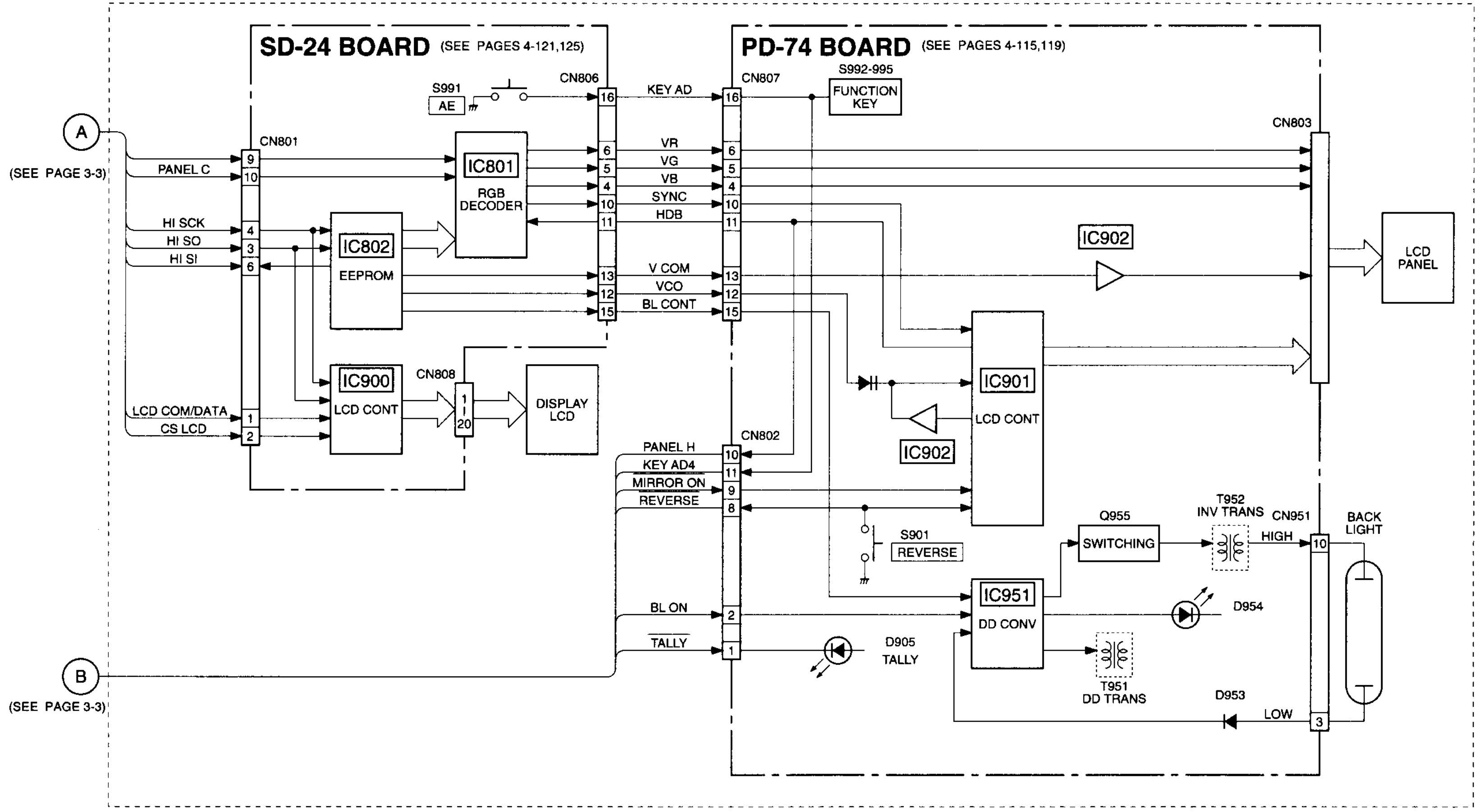
SECTION 3
BLOCK DIAGRAMS

3-1. OVERALL (1) BLOCK DIAGRAM

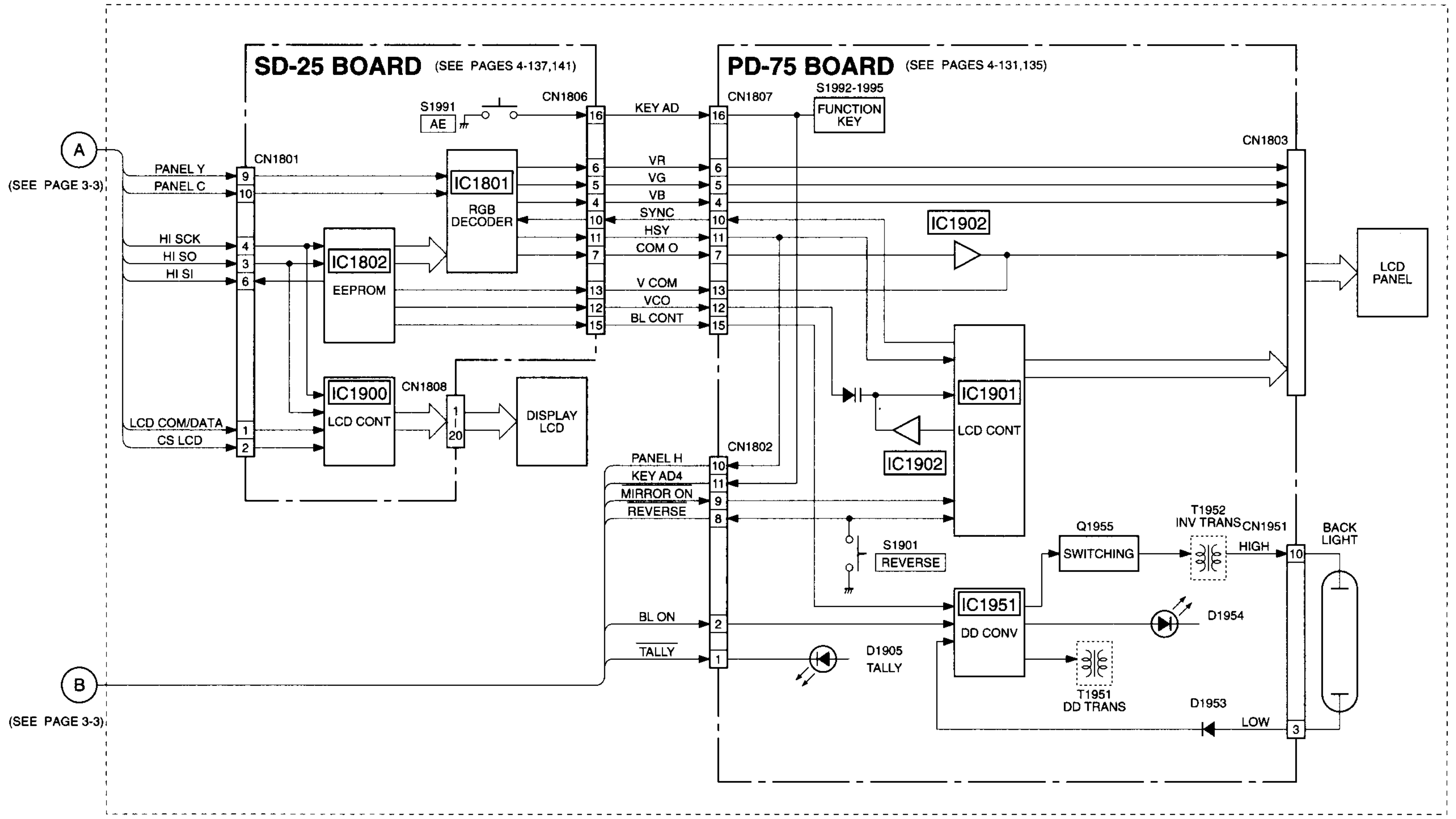

LENS BLOCK
CD-164/165 BOARD (SEE PAGE 4-40)
IC401 CCD IMAGER
VC-188 BOARD (SEE PAGE 4-13,17,21,25,29,33,35,37)
IC703 AGC
IC704 A/D CONV
IC706 DIGITAL CAMERA CORE
IC707 ZOOM PROC
IC708 VISTA
IC702 TIMING GEN
IC705 AFD
DIGITAL ZOOM MODEL
STEADY SHOT MODEL
SE-60 BOARD (SEE PAGE 4-87)
IC651
IC652
IC650
SE651 PITCH SENSOR
SE650 YAW SENSOR
B/W EVF MODEL
CRT
DY ASSY
VF-102 BOARD (SEE PAGE 4-77)
IC901 AFC VIDEO AMP
D901 (TALLY)
LB-49 BOARD (SEE PAGE 4-74)
BL801 BACK LIGHT
VF-109 BOARD (SEE PAGE 4-72)
IC851 DC/AC CONV
COLOR LCD
COLOR EVF MODEL
VF-110 BOARD (SEE PAGE 4-69)
IC701 RGB DECODER
IC702 EVR D/A CONV.
IC704 TIMING GEN.
D701 (TALLY)
CF-45/46 BOARD (SEE PAGE 4-53)
Q402 BUFF
(A) (NEXT PAGE)
(B) (NEXT PAGE)
IC402 MODE CONTROL
Q401 LED DRIVE
IC601 IRIS DRIVE
IC602 HALL AMP
IC603 MOTOR DRIVE
IC604 MOTOR PRE DRIVE
FOCUS MOTOR
ZOOM MOTOR
ZOOM SENSOR
FOCUS SENSOR
IC302 D/A CONV
IC101 (1/2) REC/PB AMP
REC AMP
PB AMP
NTSC MODEL
LP 2
LP 1
SP 1
SP 2
FE
Q101,102 ERASE OSC
IC201 Y/C PROC
Q232
IC205 Y C.G MIX AMP
IC303 CG
IC304
Q116,119 BUFF
IC101 (2/2) RF AGC AGC DET
NTSC MODEL
COLOR EVF MODEL
Q231 BUFF
PAL ONLY
IC570 PAL JOG
IC400 SERVO/SYSTEM CONTROL
CONTROL SIG
IC404 (1/4) LOARDING MOTOR
IC404 (2/4) TAPE END DET TAPE TOP DET
IC404 (3/4) WAVE SHAPER
B-MECHA CHASSIS (SEE PAGE 4-25)
FP-220 BOARD LOADING MOTOR MODE SW
FP-248 BOARD DEW SENSOR
FP-355 BOARD D001 TAPE REC
FP-356 BOARD Q002 TAPE END SENSOR
FP-249 BOARD Q001 TAPE TOP SENSOR
S REEL SENSOR H001
T REEL SENSOR H002
S001
S002 CC DOWN
DD-94 BOARD (SEE PAGE 4-79)
S003 ZOOM SW
S002 EJECT
S001 S/S
S004 STANDBY
MA-296/297 BOARD (SEE PAGE 4-59)
S951 CAMERA
S952 VTR
IC953 SIRCS
MA-296/297 BOARD (1/2) (SEE PAGE 4-51)
IC951 MIC AMP (STEREO)
IC952 MIC AMP (MONO)
MIC L
MIC R
STEREO MODEL
IC501 AFM PROM
MONO MODEL
IC402 (2/2) ATF SERVO
IC401 EEP ROM
IC405
IR-28 BOARD (SEE PAGE 4-54)
IC001 IR
Q230 BUFFER
IR MODEL
Q954 LED DRIVE
MA-296/297 BOARD(2/2) (SEE PAGE 4-51)
JK-154/155 BOARD (SEE PAGE 4-43)
VIDEO OUT
RFU DC OUT
AUDIO OUT
Q304,305 CURRENT LIMIT
STEREO MODEL
IC400 (2/2) DRUM SERVO CAPSTAN SERVO
IC403 (1/2) WAVE SHAPER
IC404 (4/4) LPF
IC403 (2/2) DRUM MOTOR DRIVE
DD-94 BOARD (SEE PAGE 4-79)
IC001 PWM DRIVE
DRUM FG/PG
M901 DRUM MOTOR
CAP MOTOR DRIVE
M902 CAPSTAN MOTOR
FG
CAP FG WAVE SHAPER
B-MECHA CHASSIS (SEE PAGE 4-25)
KEY BACK LIGHT
D301-305
S308 IR SW
D306
IR MODEL
S301-307 FUNCTION KEY
MF-7800 BLOCK (SEE PAGE 4-118)
SELECT
MF DIAL
S407-411 FUNCTION KEY
S405,406 RESET TIME
S401 MENU SW
S415 START/STOP MODE
S416 PROGRAM AE
S412-414 FUNCTION KEY
S402
D431 FRONT TALLY
IC401 INITIAL RESET
BH401 LI BATT
IC403 LANC I/O
J401 LANC
IC404 SP/HP AMP
SPEAKER
HEADPHONE

3-2. OVERALL (2) BLOCK DIAGRAM

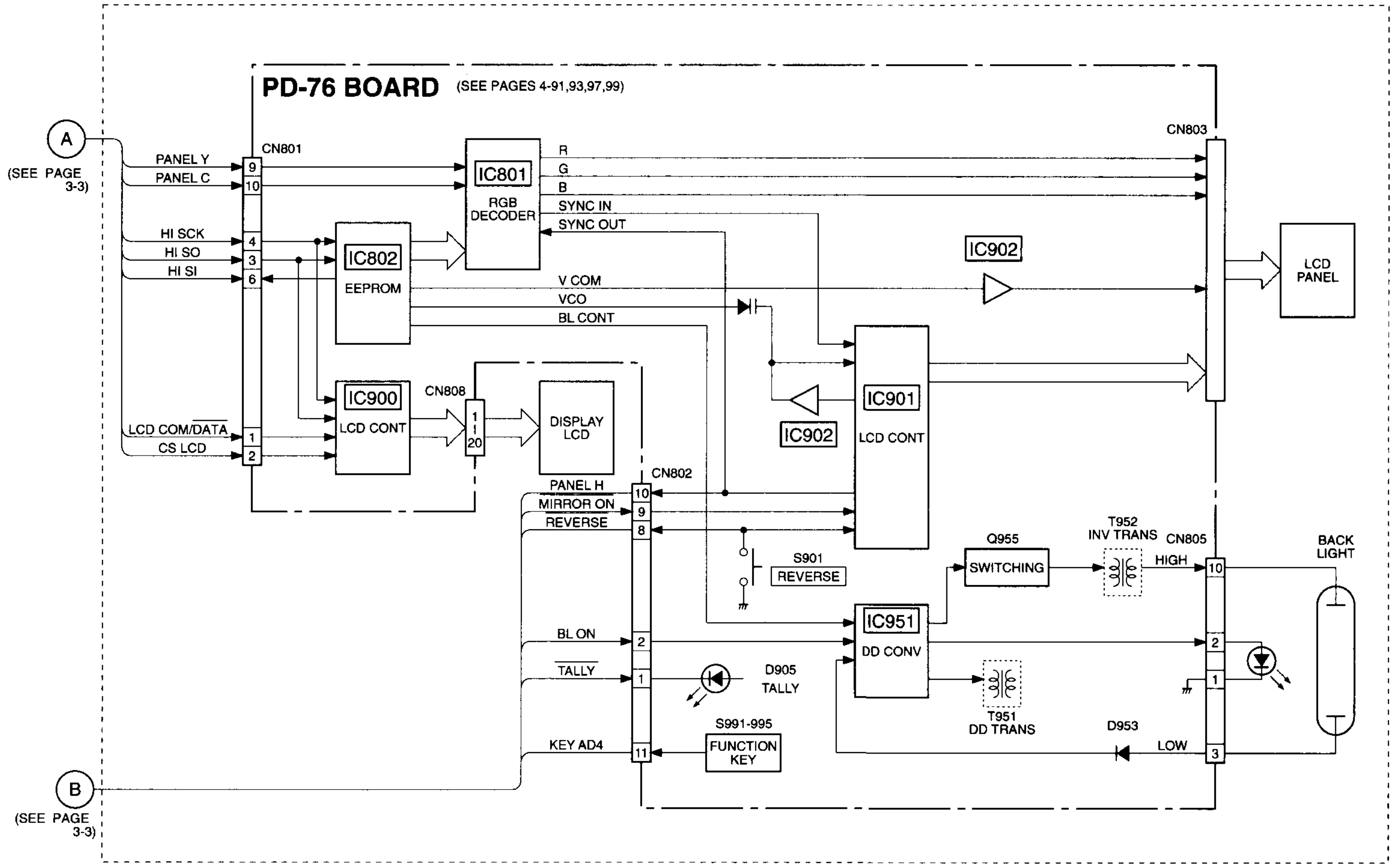
2.5 inch LCD (TYPE 1)
TRV24E MODEL


SD-24 BOARD (SEE PAGES 4-121,125)
PD-74 BOARD (SEE PAGES 4-115,119)
A
(SEE PAGE 3-3)
B
(SEE PAGE 3-3)
CN801
PANEL C
HI SCK
HI SO
HI SI
LCD COM/DATA
CS LCD
S991
AE
IC801
RGB DECODER
IC802
EEPROM
IC900
LCD CONT
CN808
DISPLAY LCD
CN806
CN807
KEY AD
VR
VG
VB
SYNC
HDB
V COM
VCO
BL CONT
S992-995
FUNCTION KEY
CN803
IC902
LCD PANEL
IC901
LCD CONT
IC902
CN802
PANEL H
KEY AD4
MIRROR ON
REVERSE
S901
REVERSE
BL ON
TALLY
Q955
SWITCHING
T952
INV TRANS
CN951
HIGH
BACK LIGHT
IC951
DD CONV
D954
D905
TALLY
T951
DD TRANS
D953
LOW

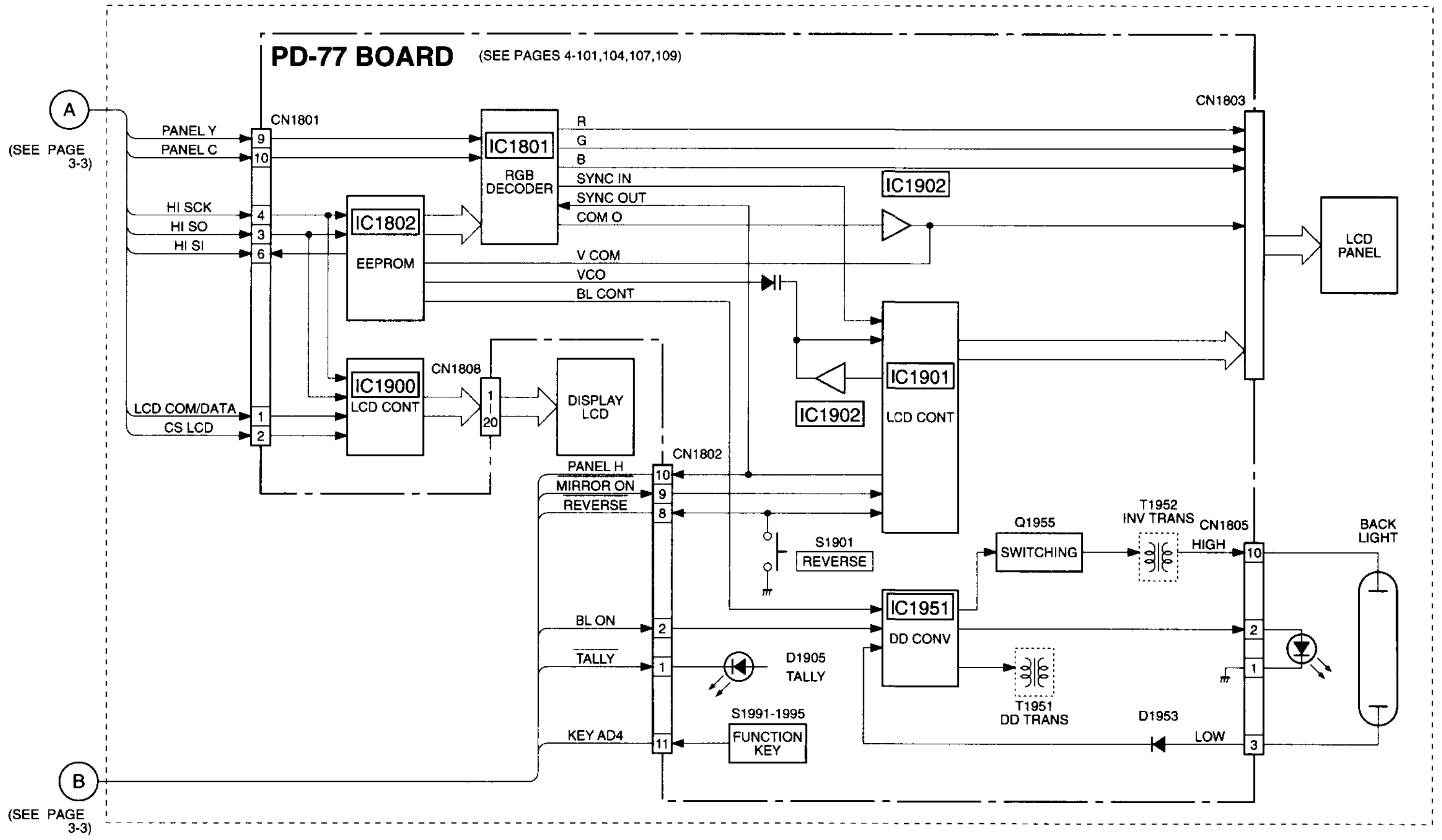
2.5 inch LCD (TYPE 2)
TRV14E MODEL


SD-25 BOARD (SEE PAGES 4-137,141)
PD-75 BOARD (SEE PAGES 4-131,135)
A
(SEE PAGE 3-3)
B
(SEE PAGE 3-3)
CN1801
PANEL Y
PANEL C
HI SCK
HI SO
HI SI
LCD COM/DATA
CS LCD
S1991
AE
IC1801
RGB DECODER
IC1802
EEPROM
IC1900
LCD CONT
CN1808
DISPLAY LCD
CN1806
CN1807
KEY AD
VR
VG
VB
SYNC
HSY
COM O
V COM
VCO
BL CONT
S1992-1995
FUNCTION KEY
CN1803
IC1902
LCD PANEL
IC1901
LCD CONT
IC1902
CN1802
PANEL H
KEY AD4
MIRROR ON
REVERSE
S1901
REVERSE
BL ON
TALLY
Q1955
SWITCHING
T1952
INV TRANS
CN1951
HIGH
BACK LIGHT
IC1951
DD CONV
D1954
D1905
TALLY
T1951
DD TRANS
D1953
LOW

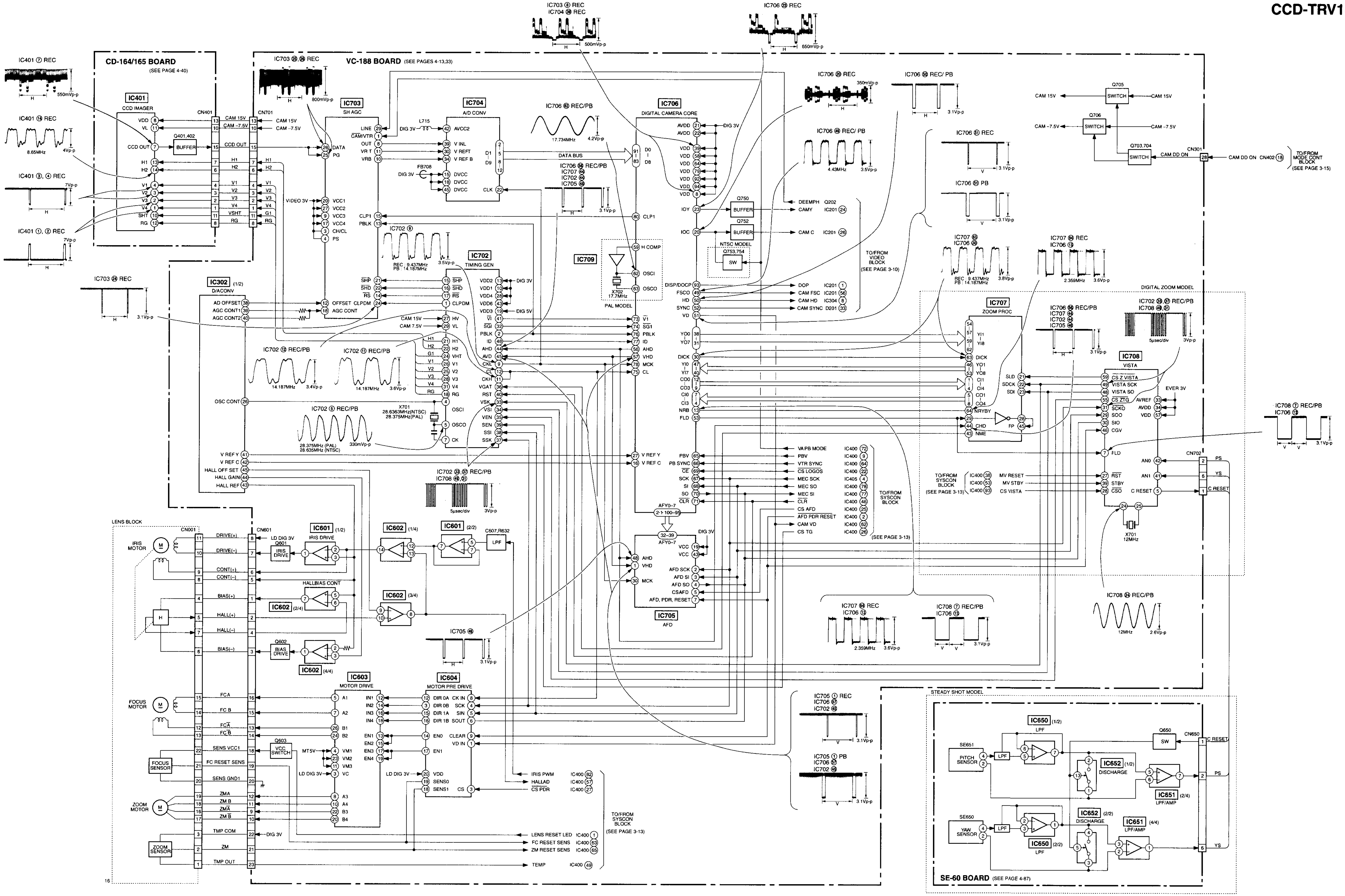
3.5 inch LCD (TYPE 4)
TRV44/TRV52/TRV512/TRV44E MODEL


PD-76 BOARD (SEE PAGES 4-91,93,97,99)
A
(SEE PAGE 3-3)
B
(SEE PAGE 3-3)
CN801
PANEL Y
PANEL C
HI SCK
HI SO
HI SI
LCD COM/DATA
CS LCD
IC801
RGB DECODER
IC802
EEPROM
IC900
LCD CONT
CN808
DISPLAY LCD
R
G
B
SYNC IN
SYNC OUT
V COM
VCO
BL CONT
CN803
IC902
LCD PANEL
IC901
LCD CONT
IC902
CN802
PANEL H
MIRROR ON
REVERSE
S901
REVERSE
BL ON
TALLY
KEY AD4
Q955
SWITCHING
T952
INV TRANS
CN805
HIGH
BACK LIGHT
IC951
DD CONV
D905
TALLY
S991-995
FUNCTION KEY
T951
DD TRANS
D953
LOW

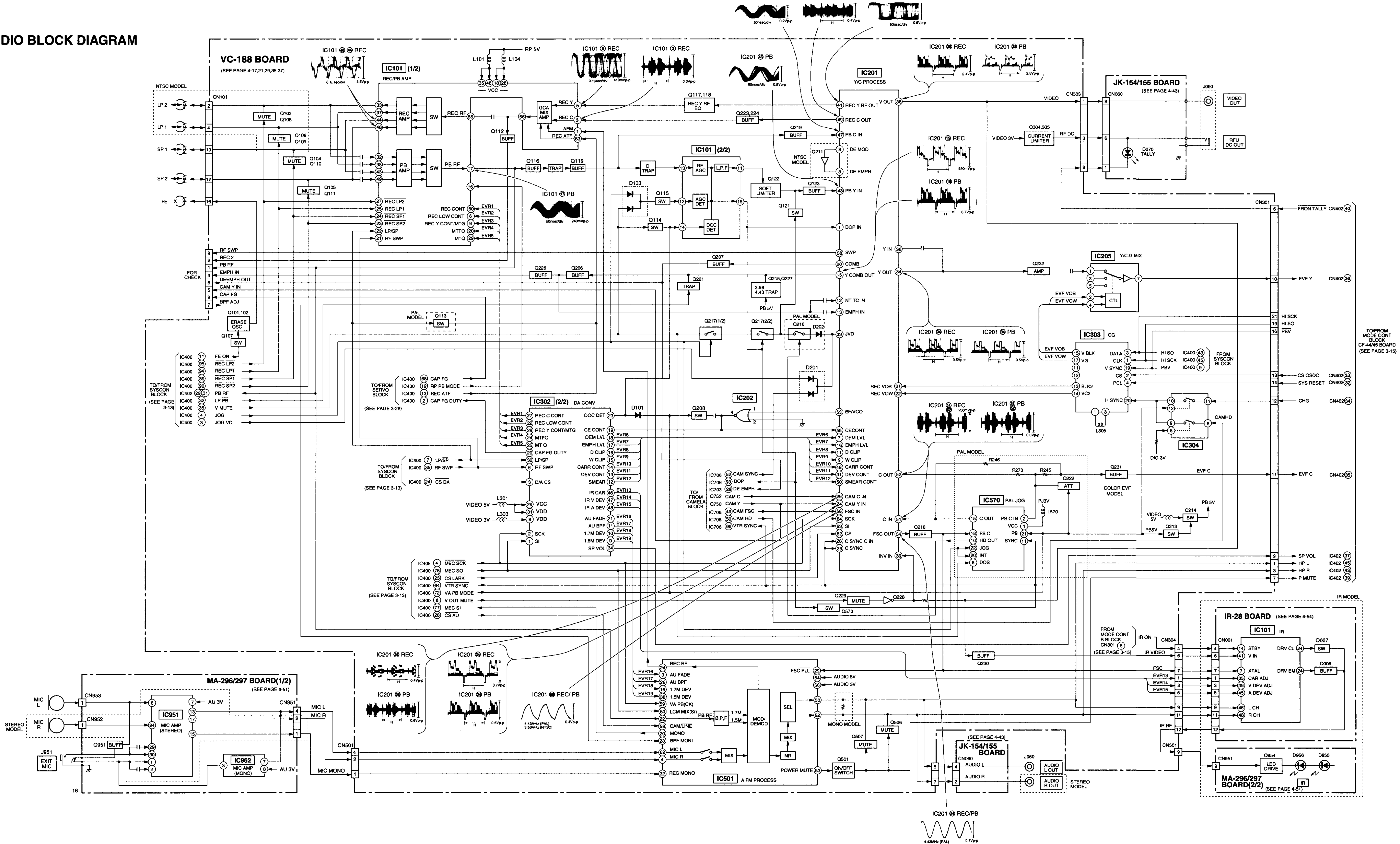
3.0 inch LCD (TYPE 3)
TRV32/TRV34/TRV53/TRV312 MODEL


PD-77 BOARD (SEE PAGES 4-101,104,107,109)
A
(SEE PAGE 3-3)
B
(SEE PAGE 3-3)
CN1801
PANEL Y
PANEL C
HI SCK
HI SO
HI SI
LCD COM/DATA
CS LCD
IC1801
RGB DECODER
IC1802
EEPROM
IC1900
LCD CONT
CN1808
DISPLAY LCD
R
G
B
SYNC IN
SYNC OUT
COM O
V COM
VCO
BL CONT
CN1803
IC1902
LCD PANEL
IC1901
LCD CONT
IC1902
CN1802
PANEL H
MIRROR ON
REVERSE
S1901
REVERSE
BL ON
TALLY
KEY AD4
Q1955
SWITCHING
T1952
INV TRANS
CN1805
HIGH
BACK LIGHT
IC1951
DD CONV
D1905
TALLY
S1991-1995
FUNCTION KEY
T1951
DD TRANS
D1953
LOW

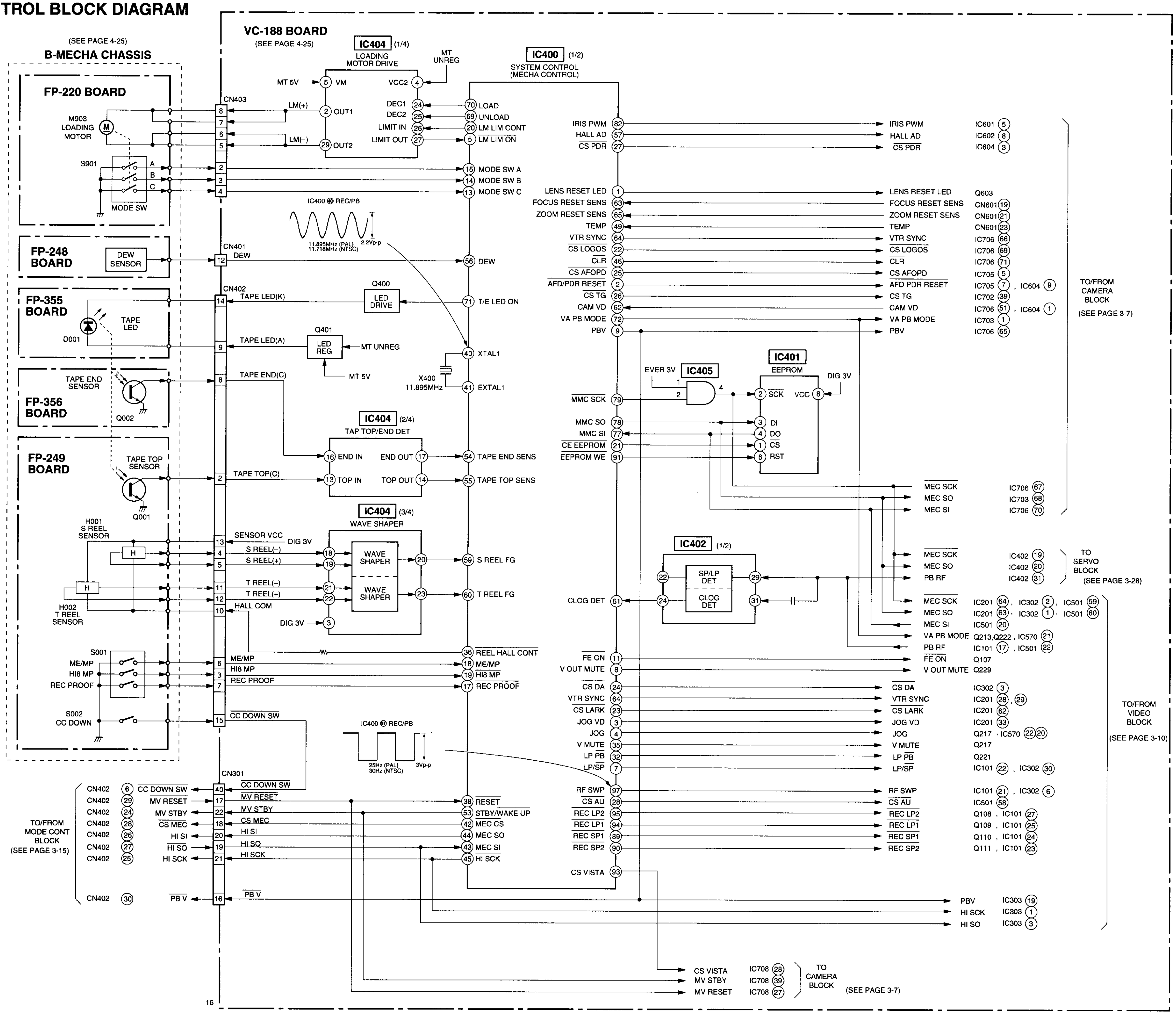
3-3. CAMERA BLOCK DIAGRAM


CD-164/165 BOARD
(SEE PAGE 4-40)
IC401
CCD IMAGER
Q401,402
BUFFER
CN401
CN701
VC-188 BOARD (SEE PAGES 4-13,33)
IC703
SH AGC
IC704
A/D CONV
IC706
DIGITAL CAMERA CORE
IC709
PAL MODEL
X702
17.7MHz
IC302 (1/2)
D/ACONV
IC702
TIMING GEN
X701
28.6363MHz(NTSC)
28.375MHz(PAL)
IC705
AFD
IC707
ZOOM PROC
IC708
VISTA
X701
12MHz
DIGITAL ZOOM MODEL
Q705
SWITCH
Q706
SWITCH
Q703,704
SWITCH
CAM 15V
CAM -7.5V
CAM DD ON
CN301
CN402
TO/FROM MODE CONT BLOCK (SEE PAGE 3-15)
Q750
BUFFER
Q752
BUFFER
NTSC MODEL
Q753,754
SW
TO/FROM VIDEO BLOCK (SEE PAGE 3-10)
TO/FROM SYSCON BLOCK (SEE PAGE 3-13)
LENS BLOCK
CN001
IRIS MOTOR
FOCUS MOTOR
ZOOM MOTOR
FOCUS SENSOR
ZOOM SENSOR
CN601
IC601 (1/2)
IRIS DRIVE
Q601
IRIS DRIVE
IC602 (1/4)
IC601 (2/2)
C607,R632
LPF
HALLBIAS CONT
IC602 (2/4)
IC602 (3/4)
Q602
BIAS DRIVE
IC602 (4/4)
IC603
MOTOR DRIVE
IC604
MOTOR PRE DRIVE
Q603
VCC SWITCH
STEADY SHOT MODEL
SE-60 BOARD (SEE PAGE 4-87)
SE651
PITCH SENSOR
SE650
YAW SENSOR
LPF
IC650 (1/2)
IC650 (2/2)
IC652 (1/2)
DISCHARGE
IC652 (2/2)
IC651 (2/4)
LPF/AMP
IC651 (4/4)
Q650
SW
CN650
CN702
IRIS PWM
HALLAD
CS PDR
LENS RESET LED
FC RESET SENS
ZM RESET SENS
TEMP
IC401 ⑦ REC
550mVp-p
IC401 ⑭ REC
8.65MHz
4Vp-p
IC401 ③, ④ REC
7Vp-p
IC401 ①, ② REC
7Vp-p
IC703 ㉔ REC
3.1Vp-p
IC703 ㉘ ㉙ REC
800mVp-p
IC703 ⑧ REC
IC704 ㉞ REC
500mVp-p
IC706 ㉙ REC
650mVp-p
IC706 ㉑ REC
350mVp-p
IC706 ㉕ REC/PB
3.1Vp-p
IC706 ㉛ REC
IC706 ㉛ PB
IC706 ㊷ REC/PB
17.734MHz
4.2Vp-p
IC706 ㊸ REC/PB
4.43MHz
3.5Vp-p
IC702 ⑨
REC : 9.437MHz
PB : 14.187MHz
3.5Vp-p
IC702 ⑬ REC/PB
14.187MHz
3.4Vp-p
IC702 ⑪ REC/PB
3.6Vp-p
IC702 ⑤ REC/PB
28.375MHz (PAL)
28.635MHz (NTSC)
330mVp-p
IC702 ㉝,㊲ REC/PB
IC708 ㊽,㉛
5μsec/div
3Vp-p
IC707 ㉔ REC
IC706 ⑬
2.359MHz
3.6Vp-p
IC708 ⑦ REC/PB
IC706 ⑬
IC708 ㉔ REC/PB
12MHz
2.6Vp-p
IC705 ㊻
IC705 ① REC
IC705 ① PB
3.1Vp-p

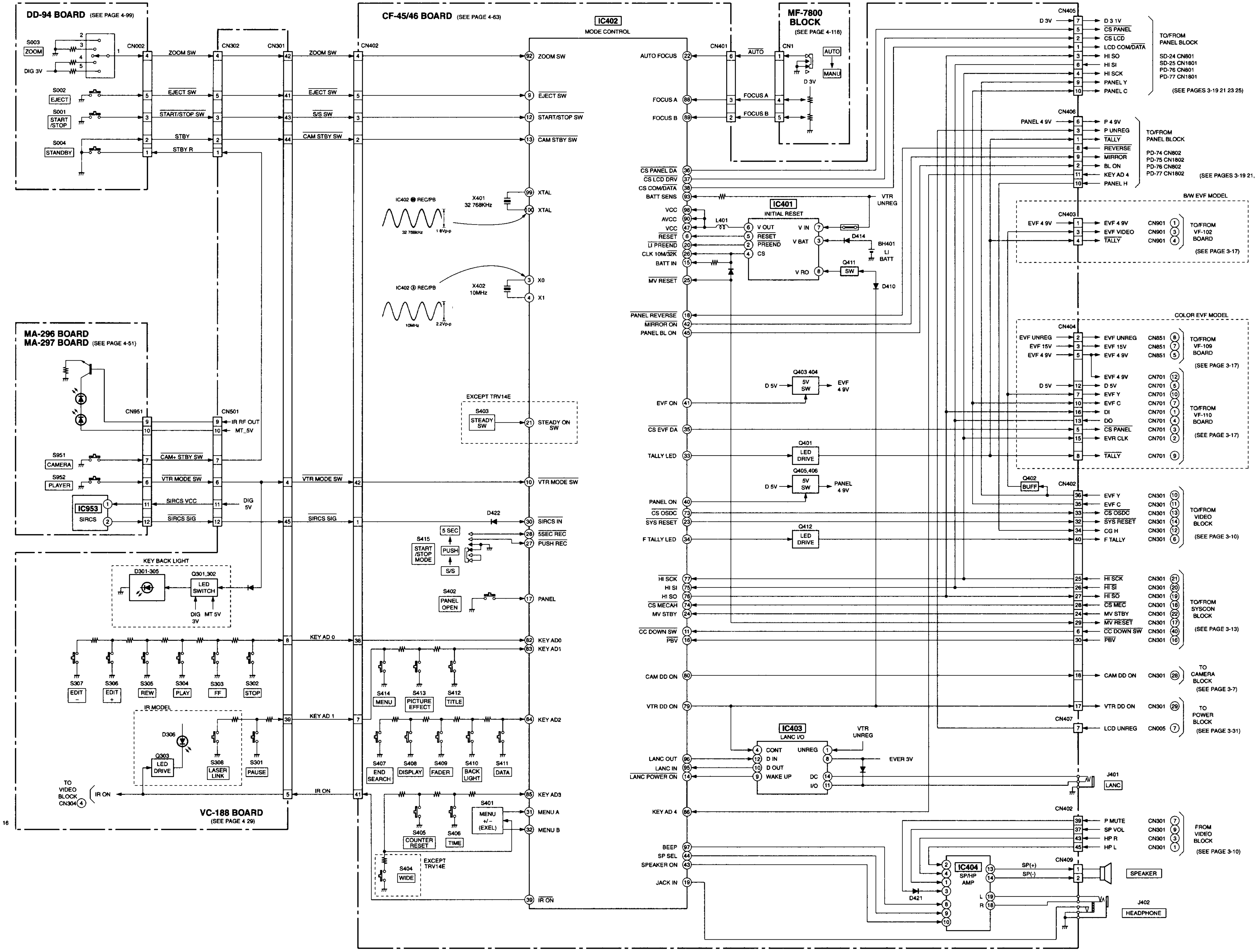
3-4. VIDEO/AUDIO BLOCK DIAGRAM


VC-188 BOARD
(SEE PAGE 4-17,21,29,35,37)
IC101 (1/2)
REC/PB AMP
IC101 (2/2)
IC201
Y/C PROCESS
IC202
IC302 (2/2) DA CONV
IC205 Y/C.G MIX
IC303 CG
IC304
IC570 PAL JOG
IC501 A FM PROCESS
JK-154/155 BOARD
(SEE PAGE 4-43)
VIDEO OUT
RFU DC OUT
D070 TALLY
TO/FROM MODE CONT BLOCK CF-44/45 BOARD (SEE PAGE 3-15)
TO/FROM SYSCON BLOCK (SEE PAGE 3-13)
TO/FROM SERVO BLOCK (SEE PAGE 3-26)
TO/FROM CAMERA BLOCK
FOR CHECK
NTSC MODEL
PAL MODEL
MA-296/297 BOARD(1/2)
(SEE PAGE 4-51)
IC951 MIC AMP (STEREO)
IC952 MIC AMP (MONO)
MIC L
MIC R
STEREO MODEL
EXIT MIC
IR-28 BOARD (SEE PAGE 4-54)
IC101 IR
IR MODEL
MA-296/297 BOARD(2/2) (SEE PAGE 4-51)
LED DRIVE
AUDIO L OUT
AUDIO R OUT
MONO MODEL
COLOR EVF MODEL
IC201 (24) REC/PB
4.43MHz (PAL)
3.58MHz (NTSC)

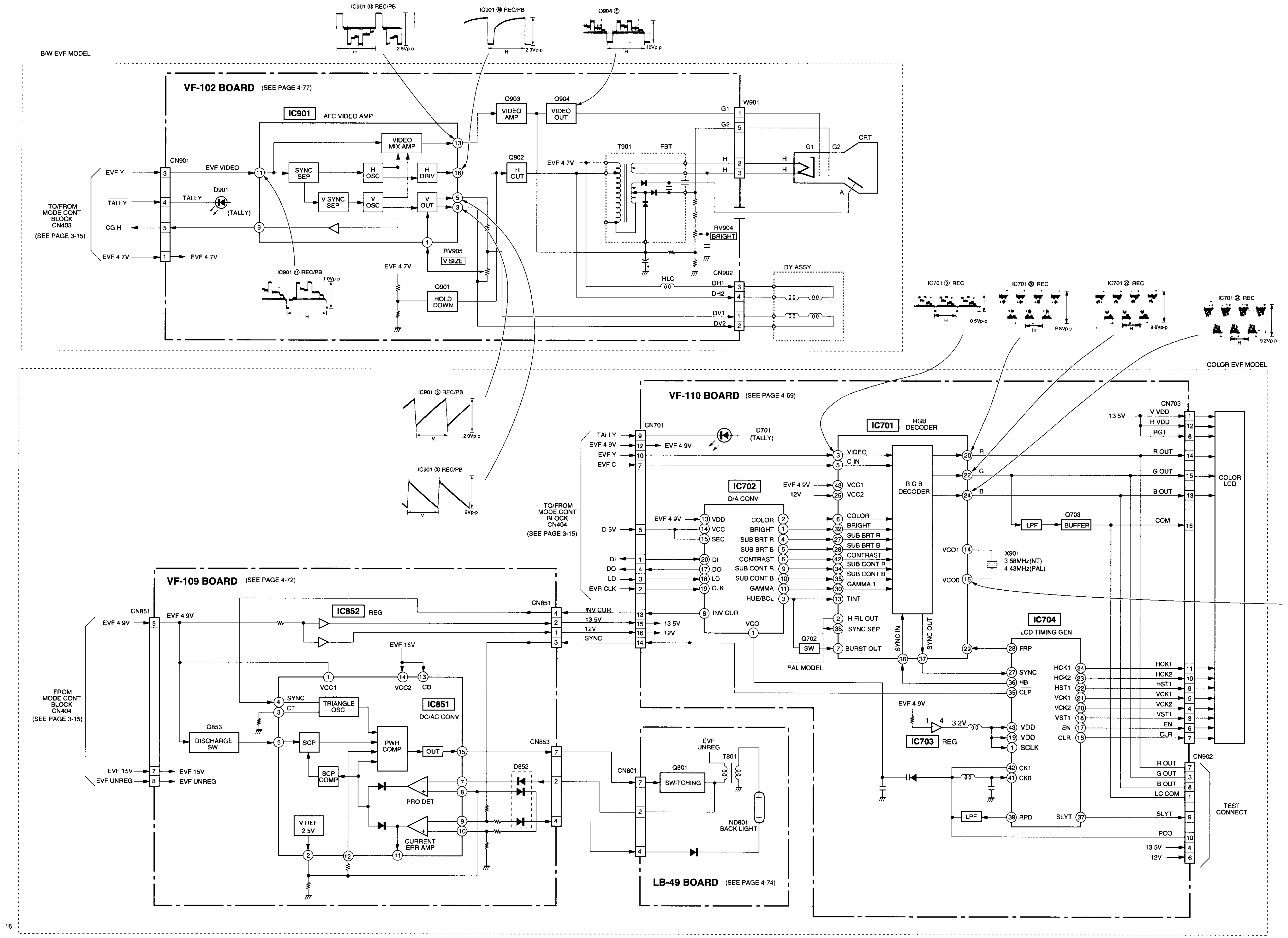
3-5. SYSTEM CONTROL BLOCK DIAGRAM


(SEE PAGE 4-25)
B-MECHA CHASSIS
FP-220 BOARD
M903 LOADING MOTOR
S901
MODE SW
A
B
C
FP-248 BOARD
DEW SENSOR
FP-355 BOARD
TAPE LED
D001
TAPE END SENSOR
FP-356 BOARD
Q002
FP-249 BOARD
TAPE TOP SENSOR
Q001
H001 S REEL SENSOR
H002 T REEL SENSOR
S001
ME/MP
HI8 MP
REC PROOF
S002 CC DOWN
VC-188 BOARD
(SEE PAGE 4-25)
IC404 (1/4)
LOADING MOTOR DRIVE
MT UNREG
MT 5V
VM
VCC2
OUT1
OUT2
DEC1
DEC2
LIMIT IN
LIMIT OUT
LM(+)
LM(−)
CN403
IC400 (1/2)
SYSTEM CONTROL (MECHA CONTROL)
LOAD
UNLOAD
LM LIM CONT
LM LIM ON
MODE SW A
MODE SW B
MODE SW C
IC400 ㊵ REC/PB
11.895MHz (PAL)
11.718MHz (NTSC)
2.2Vp-p
CN401
DEW
CN402
TAPE LED(K)
Q400
LED DRIVE
T/E LED ON
Q401
LED REG
TAPE LED(A)
MT UNREG
MT 5V
XTAL1
X400 11.895MHz
EXTAL1
TAPE END(C)
IC404 (2/4)
TAP TOP/END DET
END IN
END OUT
TOP IN
TOP OUT
TAPE END SENS
TAPE TOP SENS
TAPE TOP(C)
IC404 (3/4)
WAVE SHAPER
SENSOR VCC
DIG 3V
S REEL(−)
S REEL(+)
T REEL(−)
T REEL(+)
HALL COM
WAVE SHAPER
S REEL FG
T REEL FG
REEL HALL CONT
ME/MP
HI8 MP
REC PROOF
CC DOWN SW
IC400 ㊼ REC/PB
25Hz (PAL)
30Hz (NTSC)
3Vp-p
CN301
CC DOWN SW
MV RESET
MV STBY
CS MEC
HI SI
HI SO
HI SCK
PB V
RESET
STBY/WAKE UP
MEC CS
MEC SO
MEC SI
HI SCK
TO/FROM MODE CONT BLOCK
(SEE PAGE 3-15)
CN402 ⑥ CC DOWN SW
CN402 ㉙ MV RESET
CN402 ㉔ MV STBY
CN402 ㉘ CS MEC
CN402 ㉖ HI SI
CN402 ㉗ HI SO
CN402 ㉕ HI SCK
CN402 ㉚ PB V
IRIS PWM ㊷
HALL AD (57)
CS PDR ㉗
LENS RESET LED ①
FOCUS RESET SENS (63)
ZOOM RESET SENS (65)
TEMP ㊾
VTR SYNC (64)
CS LOGOS ㉒
CLR ㊻
CS AFOPD ㉕
AFD/PDR RESET ②
CS TG ㉖
CAM VD (62)
VA PB MODE (72)
PBV ⑨
EVER 3V
IC405
IC401
EEPROM
DIG 3V
SCK
VCC
DI
DO
CS
RST
MMC SCK (79)
MMC SO (78)
MMC SI (77)
CE EEPROM ㉑
EEPROM WE (91)
IC402 (1/2)
SP/LP DET
CLOG DET
CLOG DET (61)
FE ON ⑪
V OUT MUTE ⑧
CS DA ㉔
VTR SYNC (64)
CS LARK ㉓
JOG VD ③
JOG ④
V MUTE ㉟
LP PB ㉜
LP/SP ⑦
RF SWP (97)
CS AU ㉘
REC LP2 (95)
REC LP1 (94)
REC SP1 (89)
REC SP2 (90)
CS VISTA (93)
IRIS PWM IC601 ⑤
HALL AD IC602 ⑧
CS PDR IC604 ③
LENS RESET LED Q603
FOCUS RESET SENS CN601 ⑲
ZOOM RESET SENS CN601 ㉑
TEMP CN601 ㉓
VTR SYNC IC706 (66)
CS LOGOS IC706 (69)
CLR IC706 (71)
CS AFOPD IC705 ⑤
AFD PDR RESET IC705 ⑦, IC604 ⑨
CS TG IC702 ㊴
CAM VD IC706 (51), IC604 ①
VA PB MODE IC703 ①
PBV IC706 (65)
MEC SCK IC706 (67)
MEC SO IC703 (68)
MEC SI IC706 (70)
TO/FROM CAMERA BLOCK
(SEE PAGE 3-7)
MEC SCK IC402 ⑲
MEC SO IC402 ⑳
PB RF IC402 ㉛
TO SERVO BLOCK
(SEE PAGE 3-28)
MEC SCK IC201 (64), IC302 ②, IC501 (59)
MEC SO IC201 (63), IC302 ①, IC501 (60)
MEC SI IC501 ⑳
VA PB MODE Q213,Q222, IC570 ㉑
PB RF IC101 ⑰, IC501 ㉒
FE ON Q107
V OUT MUTE Q229
CS DA IC302 ③
VTR SYNC IC201 ㉘, ㉙
CS LARK IC201 (62)
JOG VD IC201 ㉝
JOG Q217, IC570 ㉒⑳
V MUTE Q217
LP PB Q221
LP/SP IC101 ㉒, IC302 ㉚
RF SWP IC101 ㉑, IC302 ⑥
CS AU IC501 (58)
REC LP2 Q108, IC101 ㉗
REC LP1 Q109, IC101 ㉕
REC SP1 Q110, IC101 ㉔
REC SP2 Q111, IC101 ㉓
TO/FROM VIDEO BLOCK
(SEE PAGE 3-10)
PBV IC303 ⑲
HI SCK IC303 ①
HI SO IC303 ③
CS VISTA IC708 ㉘
MV STBY IC708 ㊴
MV RESET IC708 ㉗
TO CAMERA BLOCK
(SEE PAGE 3-7)
16

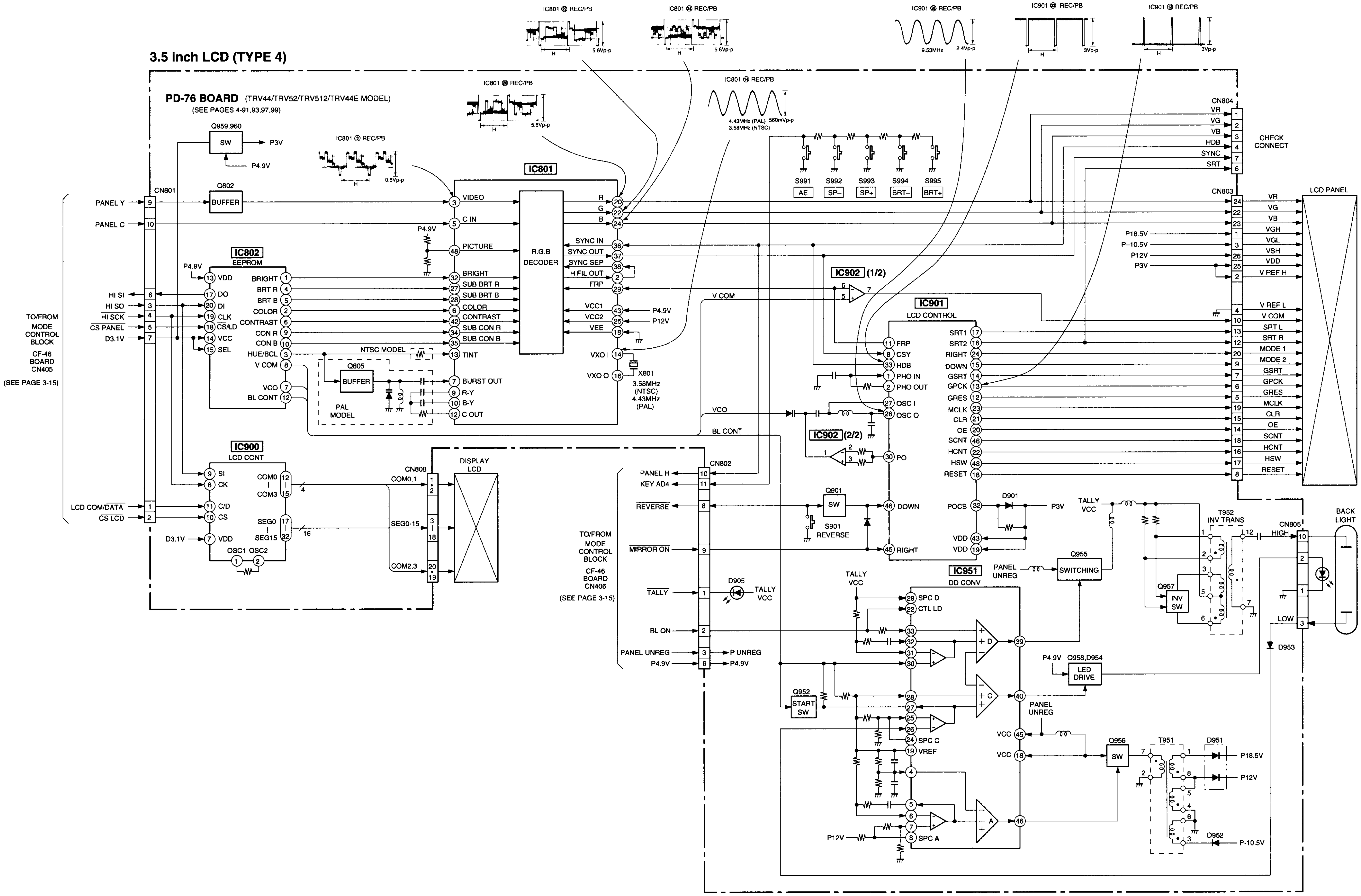
3-6. MODE CONTROL BLOCK DIAGRAM


DD-94 BOARD (SEE PAGE 4-99)
S003 ZOOM
DIG 3V
S002 EJECT
S001 START/STOP
S004 STANDBY
CN002
ZOOM SW
EJECT SW
START/STOP SW
STBY
STBY R
CN302
CN301
CN402
S/S SW
CAM STBY SW
CF-45/46 BOARD (SEE PAGE 4-63)
IC402 MODE CONTROL
ZOOM SW
EJECT SW
START/STOP SW
CAM STBY SW
XTAL
X401 32.768KHz
IC402 99 REC/PB
X402 10MHz
IC402 3 REC/PB
X0
X1
AUTO FOCUS
FOCUS A
FOCUS B
CN401
MF-7800 BLOCK (SEE PAGE 4-118)
CN1
AUTO
MANU
D 3V
CS PANEL DA
CS LCD DRV
CS COM/DATA
BATT SENS
VCC
AVCC
RESET
LI PREEND
CLK 10M/32K
BATT IN
MV RESET
IC401 INITIAL RESET
V OUT
PREEND
CS
V IN
V BAT
V RO
L401
D414
BH401 LI BATT
Q411 SW
D410
VTR UNREG
PANEL REVERSE
MIRROR ON
PANEL BL ON
Q403,404 5V SW
EVF 4.9V
D 5V
EVF ON
CS EVF DA
Q401 LED DRIVE
TALLY LED
Q405,406 5V SW
PANEL 4.9V
PANEL ON
CS OSDC
SYS RESET
Q412 LED DRIVE
F TALLY LED
HI SCK
HI SI
HI SO
CS MECAH
MV STBY
CC DOWN SW
PBV
CAM DD ON
VTR DD ON
IC403 LANC I/O
CONT
D IN
D OUT
WAKE UP
UNREG
DC
I/O
EVER 3V
LANC OUT
LANC IN
LANC POWER ON
J401 LANC
KEY AD 4
BEEP
SP SEL
SPEAKER ON
JACK IN
IC404 SP/HP AMP
SP(+)
SP(-)
D421
CN409
SPEAKER
J402 HEADPHONE
CN405
D 3.1V
CS PANEL
CS LCD
LCD COM/DATA
HI SO
HI SI
HI SCK
PANEL Y
PANEL C
TO/FROM PANEL BLOCK
SD-24 CN801
SD-25 CN1801
PD-76 CN801
PD-77 CN1801
(SEE PAGES 3-19 21 23 25)
CN406
P 4.9V
P UNREG
TALLY
REVERSE
MIRROR
BL ON
KEY AD 4
PANEL H
PD-74 CN802
PD-75 CN1802
PD-76 CN802
PD-77 CN1802
(SEE PAGES 3-19 21,23,25)
B/W EVF MODEL
CN403
EVF 4.9V
EVF VIDEO
CN901
TO/FROM VF-102 BOARD
(SEE PAGE 3-17)
COLOR EVF MODEL
CN404
EVF UNREG
EVF 15V
CN851
TO/FROM VF-109 BOARD
(SEE PAGE 3-17)
EVF Y
EVF C
DI
DO
EVR CLK
CN701
TO/FROM VF-110 BOARD
(SEE PAGE 3-17)
Q402 BUFF
CN402
CG H
F TALLY
CN301
TO/FROM VIDEO BLOCK
(SEE PAGE 3-10)
CS MEC
TO/FROM SYSCON BLOCK
(SEE PAGE 3-13)
TO CAMERA BLOCK
(SEE PAGE 3-7)
TO POWER BLOCK
CN407
LCD UNREG
CN005
(SEE PAGE 3-31)
P MUTE
SP VOL
HP R
HP L
FROM VIDEO BLOCK
(SEE PAGE 3-10)
MA-296 BOARD
MA-297 BOARD (SEE PAGE 4-51)
CN951
CN501
IR RF OUT
MT_5V
S951 CAMERA
S952 PLAYER
CAM+ STBY SW
VTR MODE SW
SIRCS VCC
SIRCS SIG
IC953 SIRCS
DIG 5V
D422
SIRCS IN
5 SEC
SSEC REC
PUSH REC
S415 START/STOP MODE
PUSH
S/S
EXCEPT TRV14E
S403 STEADY SW
STEADY ON SW
S402 PANEL OPEN
PANEL
KEY BACK LIGHT
D301-305
Q301,302 LED SWITCH
DIG 3V
MT 5V
KEY AD 0
KEY AD1
S307 EDIT -
S306 EDIT +
S305 REW
S304 PLAY
S303 FF
S302 STOP
S414 MENU
S413 PICTURE EFFECT
S412 TITLE
IR MODEL
D306
Q303 LED DRIVE
S308 LASER LINK
S301 PAUSE
KEY AD 1
KEY AD2
S407 END SEARCH
S408 DISPLAY
S409 FADER
S410 BACK LIGHT
S411 DATA
TO VIDEO BLOCK CN304 ④
IR ON
KEY AD3
S401 MENU +/- (EXEL)
MENU A
MENU B
S405 COUNTER RESET
S406 TIME
S404 WIDE
VC-188 BOARD (SEE PAGE 4-29)
16

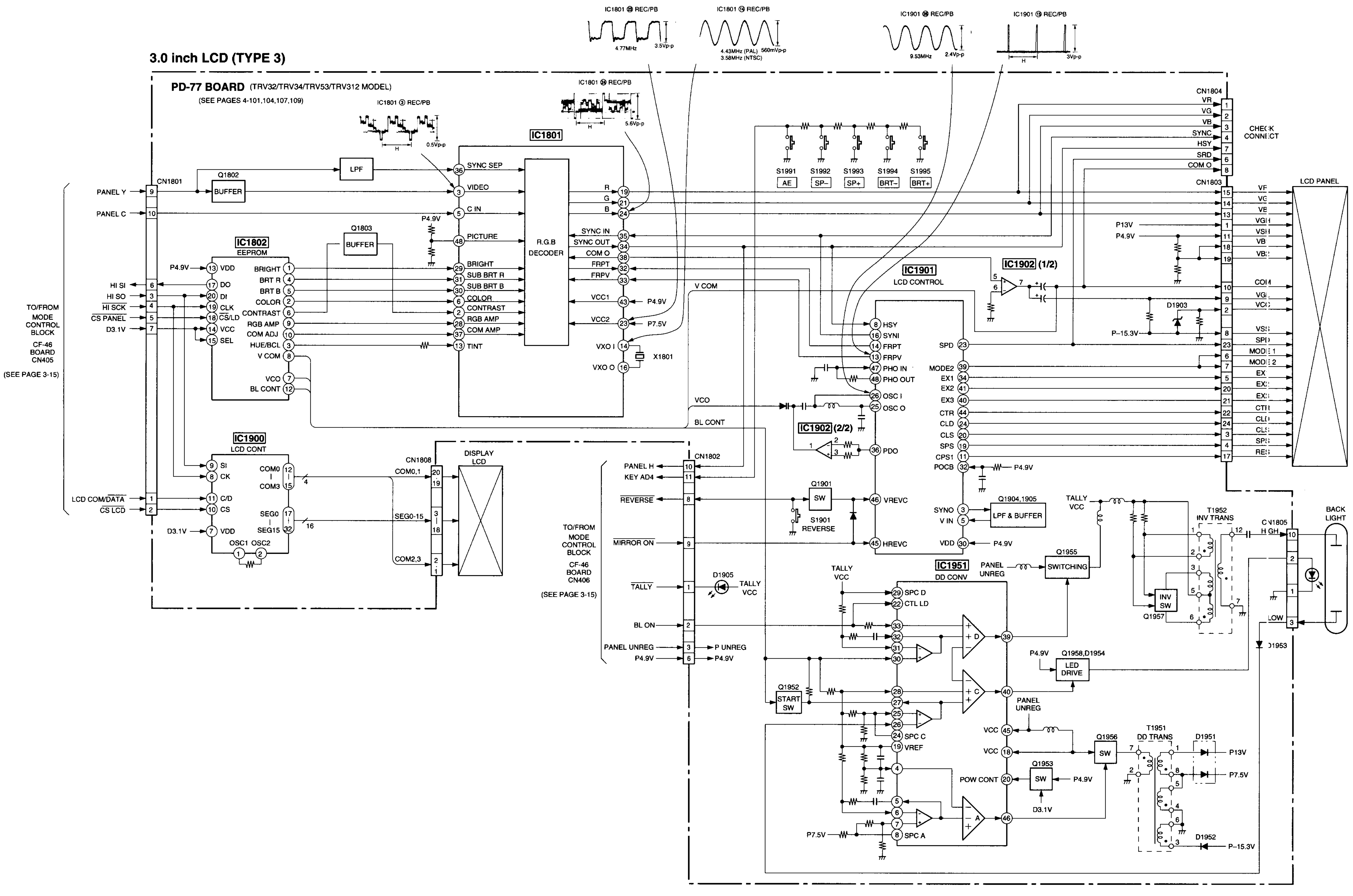
3-7. EVF BLOCK DIAGRAM


B/W EVF MODEL
VF-102 BOARD (SEE PAGE 4-77)
IC901 AFC VIDEO AMP
IC901 ⑬ REC/PB
IC901 ⑯ REC/PB
Q904 ⓔ
IC901 ⑪ REC/PB
IC901 ⑤ REC/PB
IC901 ③ REC/PB
VIDEO MIX AMP
SYNC SEP
H OSC
H DRIV
V SYNC SEP
V OSC
V OUT
Q903 VIDEO AMP
Q904 VIDEO OUT
Q902 H OUT
T901 FBT
W901
CRT
G1
G2
RV904 BRIGHT
RV905 V SIZE
Q901 HOLD DOWN
HLC
CN902
DY ASSY
DH1
DH2
DV1
DV2
CN901
EVF Y
TALLY
CG H
EVF 4.7V
EVF VIDEO
D901 (TALLY)
TO/FROM MODE CONT BLOCK CN403 (SEE PAGE 3-15)
COLOR EVF MODEL
VF-110 BOARD (SEE PAGE 4-69)
CN701
D701 (TALLY)
EVF 4.9V
EVF C
D 5V
DI
DO
LD
EVR CLK
INV CUR
13.5V
12V
SYNC
TO/FROM MODE CONT BLOCK CN404 (SEE PAGE 3-15)
IC701 RGB DECODER
VIDEO
C IN
VCC1
VCC2
COLOR
BRIGHT
SUB BRT R
SUB BRT B
CONTRAST
SUB CONT R
SUB CONT B
GAMMA 1
TINT
H FIL OUT
SYNC SEP
BURST OUT
SYNC IN
SYNC OUT
VCO1
VCO0
X901 3.58MHz(NT) 4.43MHz(PAL)
IC702 D/A CONV
VDD
VCC
SEC
GAMMA
HUE/BCL
VCO
Q702 SW
PAL MODEL
IC701 ③ REC
IC701 ⑳ REC
IC701 ㉒ REC
IC701 ㉔ REC
IC701 ⑯ REC
R OUT
G OUT
B OUT
LPF
Q703 BUFFER
COM
CN703
V VDD
H VDD
RGT
COLOR LCD
IC704 LCD TIMING GEN
FRP
SYNC
HB
CLP
HCK1
HCK2
HST1
VCK1
VCK2
VST1
EN
CLR
SCLK
CK1
CK0
RPD
SLYT
IC703 REG
3.2V
CN902
LC COM
PCO
TEST CONNECT
VF-109 BOARD (SEE PAGE 4-72)
CN851
IC852 REG
EVF 15V
EVF UNREG
FROM MODE CONT BLOCK CN404 (SEE PAGE 3-15)
IC851 DC/AC CONV
TRIANGLE OSC
PWH COMP
OUT
SCP
SCP COMP
PRO DET
CURRENT ERR AMP
V REF 2.5V
Q853 DISCHARGE SW
CN853
D852
LB-49 BOARD (SEE PAGE 4-74)
CN801
Q801 SWITCHING
T801
ND801 BACK LIGHT

3-8. LCD (TYPE 4) BLOCK DIAGRAM


3.5 inch LCD (TYPE 4)
PD-76 BOARD (TRV44/TRV52/TRV512/TRV44E MODEL)
(SEE PAGES 4-91,93,97,99)
IC801 REC/PB
IC901 REC/PB
5.6Vp-p
0.5Vp-p
560mVp-p
4.43MHz (PAL)
3.58MHz (NTSC)
9.53MHz
2.4Vp-p
3Vp-p
H
Q959,960
SW
P3V
P4.9V
Q802
BUFFER
IC801
VIDEO
C IN
PICTURE
BRIGHT
SUB BRT R
SUB BRT B
COLOR
CONTRAST
SUB CON R
SUB CON B
TINT
BURST OUT
R-Y
B-Y
C OUT
R.G.B DECODER
SYNC IN
SYNC OUT
SYNC SEP
H FIL OUT
FRP
VCC1
VCC2
VEE
VXO I
VXO O
X801
3.58MHz (NTSC)
4.43MHz (PAL)
P12V
IC802
EEPROM
VDD
DO
DI
CLK
CS/LD
VCC
SEL
BRT R
BRT B
CON R
CON B
HUE/BCL
V COM
VCO
BL CONT
NTSC MODEL
PAL MODEL
Q805
CN801
PANEL Y
PANEL C
HI SI
HI SO
HI SCK
CS PANEL
D3.1V
LCD COM/DATA
CS LCD
TO/FROM MODE CONTROL BLOCK
CF-46 BOARD CN405
(SEE PAGE 3-15)
IC900
LCD CONT
SI
CK
C/D
CS
COM0
COM3
SEG0
SEG15
OSC1
OSC2
CN808
COM0,1
SEG0-15
COM2,3
DISPLAY LCD
S991
S992
S993
S994
S995
AE
SP–
SP+
BRT–
BRT+
IC902 (1/2)
IC902 (2/2)
IC901
LCD CONTROL
FRP
CSY
HDB
PHO IN
PHO OUT
OSC I
OSC O
PO
DOWN
RIGHT
SRT1
SRT2
GSRT
GPCK
GRES
MCLK
CLR
OE
SCNT
HCNT
HSW
RESET
POCB
VDD
D901
Q901
S901 REVERSE
CN802
PANEL H
KEY AD4
REVERSE
MIRROR ON
TALLY
BL ON
PANEL UNREG
P UNREG
P4.9V
TO/FROM MODE CONTROL BLOCK
CF-46 BOARD CN406
(SEE PAGE 3-15)
D905
TALLY VCC
CN804
VR
VG
VB
HDB
SYNC
SRT
CHECK CONNECT
CN803
LCD PANEL
VGH
VGL
VSH
VDD
V REF H
V REF L
V COM
SRT L
SRT R
MODE 1
MODE 2
P18.5V
P-10.5V
IC951
DD CONV
SPC D
CTL LD
SPC C
VREF
SPC A
VCC
Q952
START SW
Q955
SWITCHING
PANEL UNREG
Q957
INV SW
T952
INV TRANS
CN805
HIGH
LOW
BACK LIGHT
D953
Q958,D954
LED DRIVE
Q956
T951
D951
D952
P-10.5V

3-9. LCD (TYPE 3) BLOCK DIAGRAM


3.0 inch LCD (TYPE 3)
PD-77 BOARD (TRV32/TRV34/TRV53/TRV312 MODEL)
(SEE PAGES 4-101,104,107,109)
IC1801 ㉔ REC/PB
4.77MHz
3.5Vp-p
IC1801 ⑭ REC/PB
4.43MHz (PAL) 560mVp-p
3.58MHz (NTSC)
IC1901 ㉖ REC/PB
9.53MHz 2.4Vp-p
IC1901 ⑬ REC/PB
H
3Vp-p
IC1801 ㉘ REC/PB
5.6Vp-p
IC1801 ③ REC/PB
0.5Vp-p
IC1801
LPF
SYNC SEP
VIDEO
C IN
PICTURE
BRIGHT
SUB BRT R
SUB BRT B
COLOR
CONTRAST
RGB AMP
COM AMP
TINT
R.G.B DECODER
R
G
B
SYNC IN
SYNC OUT
COM O
FRPT
FRPV
VCC1
VCC2
VXO I
VXO O
X1801
P4.9V
P7.5V
CN1801
PANEL Y
PANEL C
Q1802
BUFFER
Q1803
BUFFER
IC1802
EEPROM
VDD
DO
DI
CLK
CS/LD
VCC
SEL
BRIGHT
BRT R
BRT B
COLOR
CONTRAST
RGB AMP
COM ADJ
HUE/BCL
V COM
VCO
BL CONT
HI SI
HI SO
HI SCK
CS PANEL
D3.1V
TO/FROM MODE CONTROL BLOCK
CF-46 BOARD CN405
(SEE PAGE 3-15)
LCD COM/DATA
CS LCD
IC1900
LCD CONT
SI
CK
C/D
CS
VDD
COM0
COM3
SEG0
SEG15
OSC1 OSC2
CN1808
COM0,1
SEG0-15
COM2,3
DISPLAY LCD
S1991 AE
S1992 SP–
S1993 SP+
S1994 BRT–
S1995 BRT+
IC1901
LCD CONTROL
HSY
SYNI
FRPT
FRPV
PHO IN
PHO OUT
OSC I
OSC O
PDO
VREVC
HREVC
SPD
MODE2
EX1
EX2
EX3
CTR
CLD
CLS
SPS
CPS1
POCB
SYNO
V IN
VDD
V COM
VCO
BL CONT
IC1902 (1/2)
IC1902 (2/2)
D1903
P–15.3V
P13V
P4.9V
Q1901
SW
S1901
REVERSE
Q1904,1905
LPF & BUFFER
CN1804
VR
VG
VB
SYNC
HSY
SRD
COM O
CHECK CONNECT
CN1803
LCD PANEL
VR
VG
VB
VGH
VSH
VB
VB2
COM
VGL
VCC
VSS
SPD
MODE 1
MODE 2
EX1
EX2
EX3
CTR
CLD
CLS
SPS
RES
CN1802
PANEL H
KEY AD4
REVERSE
MIRROR ON
TALLY
BL ON
PANEL UNREG
P4.9V
P UNREG
TO/FROM MODE CONTROL BLOCK
CF-46 BOARD CN406
(SEE PAGE 3-15)
D1905
TALLY VCC
IC1951
DD CONV
SPC D
CTL LD
SPC C
VREF
SPC A
P7.5V
Q1952
START SW
PANEL UNREG
Q1955
SWITCHING
TALLY VCC
T1952
INV TRANS
Q1957
INV SW
CN1805
HIGH
LOW
BACK LIGHT
D1953
Q1958,D1954
LED DRIVE
VCC
POW CONT
Q1953
SW
D3.1V
Q1956
SW
T1951
DD TRANS
D1951
P13V
P7.5V
D1952
P–15.3V

Enjoying picture effect

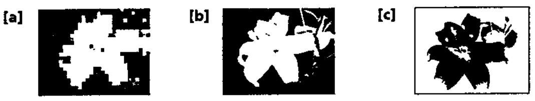
Использование эффектов изображения

Selecting picture effect

You can make pictures like those of television with the Picture Effect function.

С помощью функции эффекта

Вы можете создавать изображения как на телевидении.



MOSAIC [a]
The picture is mosaic.

SOLARIZE [b]
The light intensity is more clear, and the picture looks like a painting.

B&W
The picture is monochrome (black and white).

SEPIA
The picture is sepia.

NEG. ART [c]
The colour of the picture is reversed.

МОЗАИКА [a]
Изображение представляется в виде мозаики.

СОЛЯРИЗАЦИЯ [b]
Усиливается яркость света и изображение выглядит подобно художественной картине.

ЧЕРНО-БЕЛОЕ ИЗОБРАЖЕНИЕ
Изображение становится монохроматическим (черно-белым).

СЕПИЯ
Изображение преобразуется в цвет сепии.

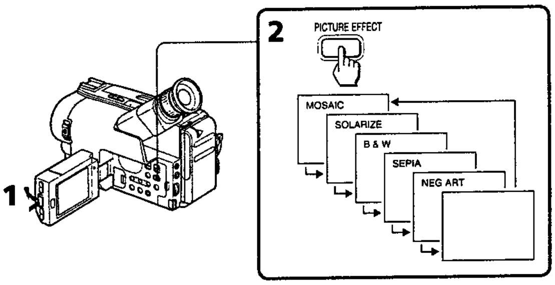
НЕГАТИВНОЕ ИСКУССТВО [c]
Изображение представлетя в негативном цвете.

Using picture effect function

(1) While pressing PUSH OPEN, open the LCD panel.
(2) While the camcorder is in Standby mode, press PICTURE EFFECT to select the desired Picture Effect mode.

Как пользоваться функцией эффектов изображения

(1) Держа нажатой кнопку PUSH OPEN, откройте панель ЖКД.
(2) В то время, как видеокамера находится в режиме готовности, нажмите кнопку PICTURE EFFECT для выбора желаемого режима эффектов изображения.



Returning to normal mode
Press PICTURE EFFECT until the Picture Effect indicator disappears.

Note on the picture effect
When you turn the power off, the camcorder returns automatically to normal mode.

Возврат к нормальному режиму
Нажимайте кнопку PICTURE EFFECT до тех пор, пока индикатор эффектов изображения не исчезнет.

Примечание относительно эффектов изображения
Если Вы выключите питание, видеокамера автоматиески вернется к нормальному режиму.

Using the wide mode function

Использование функции широкоформатного режима

– CCD-TRV24E only

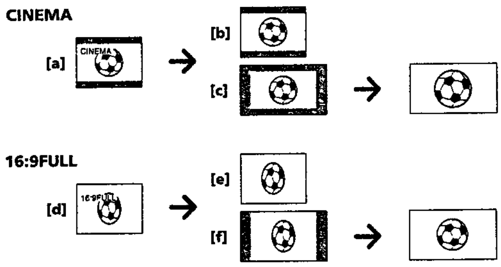
Selecting the desired mode

You can record a cinemalike picture (CINEMA) or a 16:9 wide picture to watch on the 16:9 wide-screen TV (16:9FULL).

– Только CCD-TRV24E

Выбор желаемого режима

Вы можете записывать изображение подобно кинофильмам (CINEMA) или широкоформатное изображение формата 16:9 для просмотра на широкоэкранном телевизоре с размером кинескопа 16:9 (16:9FULL).



CINEMA
Black bands appear at the top and the bottom of the screen. The viewfinder or the LCD screen **[a]** and a normal TV screen **[b]** look wide. You can also watch the picture without black bands on a wide-screen TV **[c]**.

16:9FULL
The picture in the viewfinder or on the LCD screen **[d]** or on a normal TV **[e]** is horizontally compressed. You can watch the picture of normal images on a wide-screen TV **[f]**.

CINEMA (РЕЖИМ КИНО)
Вверху и внизу экрана появятся ченые полосы. Видоискатель или экран ЖКД **[a]** и нормальный телевизионный экран **[b]** будут иметь широкоформатный вид. Вы также можете наблюдать изображение без черных полос на широкоформатном телевизоре **[c]**.

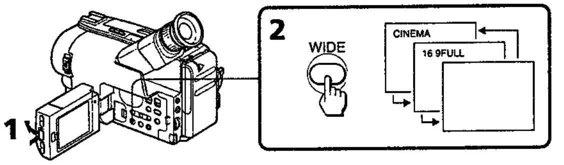
16:9FULL (ШИРОКОФОРМАТНЫЙ РЕЖИМ 16:9)
Изображение в видоискателе или на экране ЖКД **[d]**, а также на экране нормального телевизора **[e]** будет сжато по горизонтали. Вы также можете наблюдать изображение в нормальном виде на широкоэкранном телевизоре **[f]**.

Using the wide mode function

(1) While pressing PUSH OPEN, open the LCD panel.
(2) While the camcorder is in Standby mode, press WIDE repeatedly so that the desired mode indicator appears.

Использование функции широкоформатного режима

(1) Держа нажатой кнопку PUSH OPEN, откройте панель ЖКД.
(2) В то время, как видеокамера находится в режиме готовности, нажимайте повторно кнопку WIDE, так, чтобы появился индикатор желаемого режима.



To cancel wide mode
Press WIDE repeatedly until the wide mode indicator disappears.

To watch the tape recorded in wide mode
To watch the tape recorded in CINEMA mode, set the screen mode of the wide-screen TV to zoom mode. To watch the tape recorded in 16:9FULL mode, set it to full mode. For details, refer to the instruction manual of your TV. Note that the picture recorded in 16:9FULL mode looks compressed on a normal TV.

Notes on wide mode
- You cannot cancel the wide mode during recording.
- If wide mode is set to 16:9FULL, the SteadyShot function does not work and the ✋ indicator flashes.
- When you record in 16:9FULL mode, the date or time indicator will be widened on the wide-screen TV.
- If you dub a tape, the tape is copied in the same mode as the original recording.
- The wide mode is cancelled automatically 5 minutes after you remove the power source.

Для отмены широкоформатного режима
Нажимайте повторно кнопку WIDE, пока индикатор широкоформатного режима не исчезнет.

Для просмотра записи ленты в широкоформатном режиме
Для просмотра записи в режиме CINEMA установите экранный режим широкоэкранного телевизора в режим масштабирования. Для просмотра записи ленты в режиме16:9FULL установите телевизор в полноформатный режим. Что касается подробностей, обратитесь к руководству по эксплуатации Вашего телевизора. Помните, что изображение, записанное в режиме 16:9FULL, на нормальном телевизоре будет сжатым.

Примечания относительно широкоформатного режима
- Во время записи Вы не можете отменить широкоформатный режим.
- Если широкоформатный режим установлен в положение16:9FULL, функция стабилизации изображения SteadyShot не будет работать, а индикатор ✋ будет мигать.
- При выполнении записи в режиме16:9FULL индикация даты или времени будет расширенной на широкоэкранном телевизоре.
- В случае выполнения дублирования лента будет копироваться в том же режиме, что и оригинальная запись.
- Через 5 минут после отсоединения источника питания широкоэкранный режим будет аннулирован автоматически.

Focusing manually / Фокусировка вручную

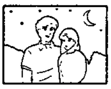
When to use manual focus

In the following cases you should obtain better results by adjusting the focus manually.

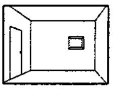
Когда следует использовать ручную фокусировку

В следующих случаях Вы можете получить лучшие результаты, выполняя регулировку вручную.

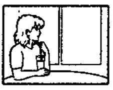
[a]



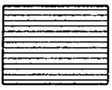
[b]



[c]



[d]



- Insufficient light [a]
- Subjects with little contrast — walls, sky, etc. [b]
- Too much brightness behind the subject [c]
- Horizontal stripes [d]
- Subjects through frosted glass
- Subjects beyond nets, etc.
- Bright subject or subject reflecting light
- Shooting a stationary subject when using a tripod

- Недостаточное освещение [a]
- Объекты с низкой контрастностью – стены, небо и т. п. [b]
- Слишком яркий фон за объектом для съемки [c]
- Горизонтальные полосы [d]
- Объекты, наблюдаемые через матовое стекло
- Объекты, находящиеся за сеткой и т.п.
- Яркий объект или предмет, отражающий свет
- Съемка неподвижного объекта с использованием треноги

Focusing manually

When focusing manually, first focus in telephoto before recording, and then reset the shot length.

(1) Set FOCUS to MANUAL. The ⓕ indicator appears.

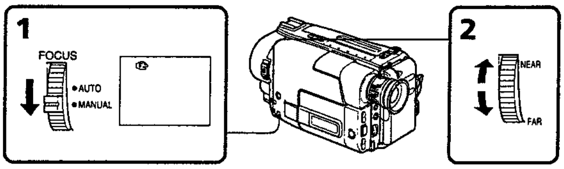
(2) Turn the focus dial to focus on the subject.
Turn to the NEAR side to focus on a nearer object.
Turn to the FAR side to focus on a farther object.

Фокусировка вручную

При фокусировке вручную сначала выполните фокусировку в положении телефото перд записью, а потом выполните повторную установку обектива для съемки.

(1) Установите FOCUS в положение MANUAL. Появится индикатор ⓕ.

(2) Поверните фокусирующий диск для фокусировки на объект.
Поверните его в сторону NEAR для фокусировки на более близкий объект.
Поверните его в сторону FAR для фокусировки на более дальний объект.



To return to the autofocus mode
Set FOCUS to AUTO. The ⓕ indicator goes out.

Shooting in relatively dark places
Shoot at wide-angle after focusing in the telephoto position.

Для возвращения в режим автоматической фокусировки
Установите FOCUS в положение AUTO. Индикатор ⓕ исчезнет.

Съемка в относительно темных местах
Выполняйте съемку в широкоугольном аспекте после того, как выполните фокусировку в положении телефото.

Using the PROGRAM AE function / Использование функции PROGRAM AE

You can select from three PROGRAM AE (Auto Exposure) modes to suit your shooting situation. When you use PROGRAM AE, you can capture high-speed action or night views.

Selecting the best mode

Select the best mode by using the following examples.

Вы можете выбрать один из трех режимов PROGRAM AE (автоматической съемки) в соответствии с Вашей ситуацией. Если Вы используете PROGRAM AE, Вы можете запечатлеть высокоскоростное действие или ночные виды.

Выбор наилучшего режима

Выберите наилучший режим, используя следующие примеры.

Sports mode
- Outdoor sports scenes such as football, tennis, golf or skiing
- A landscape in a moving car

High-speed shutter mode
- A golf swing or a tennis match in fine weather with the ball captured clearly
- Playing back certain scenes with high-speed movements in clear, sharp picture

Twilight mode
- Recording night views, neon signs or fireworks

Режим спорта
- Спортивные сцены вне помещения, например, футбол, теннис, гольф или лыжи
- Ландшафт из движущегося автомобиля

Режим высокоскоростного затвора
- Взмахи во время игры в гольф или теннис в хорошую погоду с четким запечатлением мяча
- Воспроизведение определенных сцен с высокоскоростными движениями с четким, резким изображением

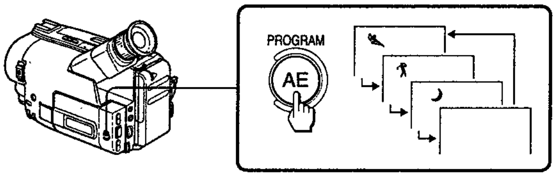
Режим сумерек
- Запись ночных видов, неоновых реклам или фейерверков

Using the PROGRAM AE function

While the camcorder is in Standby mode, press PROGRAM AE until the desired PROGRAM AE indicator appears.

Использование функции PROGRAM AE

В то время, когда видеокамера находится в режиме готовности, нажимайте кнопку PROGRAM AE, пока не появится желаемый индикатор PROGRAM AE.



Returning to automatic mode
Press PROGRAM AE until the PROGRAM AE indicator disappears.

Note on shutter speed
The shutter speed in each PROGRAM AE mode is as follows:
Sports mode – between 1/50 to 1/500
High-speed shutter mode – 1/4000
Twilight mode – 1/50
AUTO mode – 1/50 (or 1/100 when the Steady Shot is on – CCD-TRV24E only)

Возвращение к автоматическому режиму
Нажимайте кнопку PROGRAM AE, пока индикатор PROGRAM AE не исчезнет.

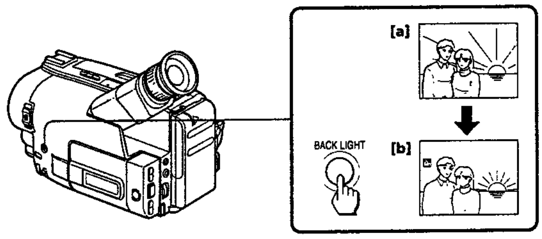
Примечание к скорости затвора
Скорость затвора в каждом режиме PROGRAM AE является следующей:
Спортивный режим — между 1/50 и 1/500
Режим высокоскоростного затвора — 1/4000
Режим сумерек — 1/50
Режим AUTO — 1/50 (или 1/100, если включена функция устойчивой съемки – только CCD-TRV24E).

Shooting with backlighting

Съемка с задней подсветкой

When you shoot a subject with the light source behind the subject or a subject with a light background, use the BACK LIGHT function.

Press BACK LIGHT. The ▣ indicator appears in the viewfinder or on the LCD screen.



[a] Subject is too dark because of backlight.
[b] Subject becomes bright with backlight compensation.

After shooting

Be sure to release this adjustment condition by pressing BACK LIGHT again. The ▣ indicator disappears. Otherwise, the picture will be too bright under normal lighting condition.

This function is also effective under following conditions:

- On snow e.g. at the ski resort
- At the beach under strong sunshine
- A subject with a light source nearby or a mirror reflecting light
- A white subject against a white background. Especially when you shoot a person wearing shiny clothes made of silk or synthetic fiber, his or her face tends to become dark if you do not use this function.

Если Вы снимаете объект с источником света позади объекта или объект на светлом фоне, используйте функциию BACK LIGHT.

Нажмите BACK LIGHT. В видоискателе или на экране ЖКД появится индикатор ▣.

[a] Объект является слишком темным из-за задней подсветки.
[b] Объект становится ярким с компенсацией задней подсветки.

После съемки

Обязательно отменить состояние такой регулировки путем нажатия BACK LIGHT снова. Индикатор ▣ исчезнет. В противном случае изображение будет слишком ярким при нормальных условиях освещения.

Эта функция также эффективна при следующих условиях:

- На фоне снега, например, на лыжном курорте
- На пляже сильном присолнечном свете
- Объект находится рядом с источником света или рядом с зеркалом, отражающим свет
- Белый объект на белом фоне. Особенно, если Вы снимаете человека, который одет в яркую одежду, сделанную из шелка или синтетического волокна, его или её лицо будет становиться темным, если Вы не будете использовать эту функцию.

Releasing the STEADY SHOT function

Включение фукции STEADY SHOT

– CCD-TRV24E only

When you shoot, the 🖐 indicator appears. This indicates that the SteadyShot function is working and the camcorder compensates for camera-shake.

You can release the SteadyShot function when you do not need to use the SteadyShot function. Do not use the SteadyShot function when shooting a stationary object with a tripod.

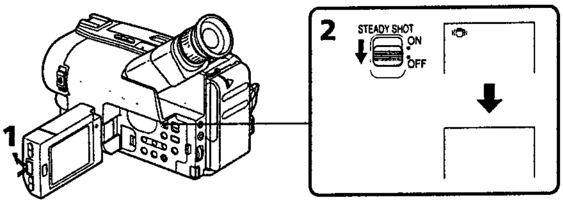
(1) While pressing PUSH OPEN, open the LCD panel.
(2) Set STEADY SHOT to OFF. The 🖐 indicator goes off.

— Только CCD-TRV24E

При выполнении съемки появится индикатор "🖐". Это означает, что включена функция SteadyShot и аппарат компенсирует подрагивание видеокамеры.

Вы можете отменить функцию SteadyShot, если нет нужды использовать функцию компенсации подрагивания видеокамеры. Не следует использовать функцию SteadyShot при съемке неподвижных объектов с помощью треноги.

(1) Нажав кпопку PUSH OPEN, откройте панель ЖКД.
(2) Установите STEADY SHOT в положение OFF. Индикатор 🖐 исчезнет.



To activate the SteadyShot function again

Set STEADY SHOT to ON.

Notes on the SteadyShot

- The SteadyShot will not correct excessive camera-shake.
- When you switch the SteadyShot function on or off, the exposure may fluctuate.
- When you record in 16:9FULL mode, the SteadyShot function does not work and the 🖐 indicator flashes.

Для того, чтобы задействовать функцию SteadyShot снова.

Установите STEADY SHOT в положение ON.

Примечания относительно функции SteadyShot

- Функция SteadyShot не являетя эффективной для чрезмерного подрагивания видеокамеры.
- При включении или выключении функции SteadyShot возможно подрагивание кадра.
- При выполнении записив режиме 16:9FULL функция SteadyShot не работает, а индикатор "🖐" будет мигать.

Superimposing a title

Наложение надписи

You can select from eight preset titles and two titles you made to superimpose it on the picture during recording Each time you press TITLE, the preset titles appear one by one.

To superimpose from the beginning

(1) Set the POWER switch to CAMERA.
(2) Turn STANDBY up.
(3) While pressing PUSH OPEN, open the LCD panel.
(4) Press TITLE repeatedly until the desired title appears. The title flashes.
(5) Press START/STOP to start recording.
(6) Press TITLE when you want to turn off the title.

To superimpose on the way of recording

(1) Press TITLE repeatedly until the desired title appears. The title flashes.
(2) When the title stops flashing, press TITLE. The title disappears.
(3) Press START/STOP to start recording.
(4) Press TITLE when you want superimpose the title.
(5) Press TITLE when you want to turn off the title.

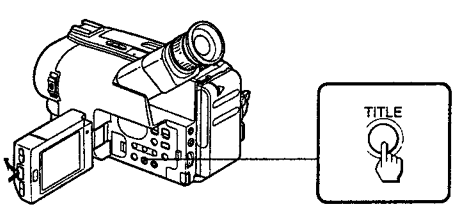
Вы можете выбрать одну из восьми предварительно установленных надписей и две надписи, созданные Вами, которые можно накладывать на изображение во время записи. Всякий раз при нажатии кнопки TITLE предварительно установленные названия появляются одно за другим.

Для наложения от начала

(1) Установите выключаталь POWER в положение CAMERA.
(2) Поверните STANDBY вверх.
(3) Нажимая PUSH OPEN, откойте панель ЖКД.
(4) Неоднократно нажимайте TITLE, пока не появится желаемая надпись. Надпись будет мигать.
(5) Нажимте START/STOP для начала записи.
(6) Нажмите TITLE, когда Вы захотите выключить надпись.

Для наложения в процессе записи

(1) Неоднократно нажимайте TITLE, пока не появится желаемая надпись. Надпись будет мигать.
(2) Когда надпись перестанет мигать, нажмите TITLE. Надпись исчезнет.
(3) Нажмите START/STOP для начала записи.
(4) Нажмите TITLE, когда Вы пожелаете наложить надпись.
(5) Нажмите TITLE, когда Вы захотите выключить надпись.



Superimposing a title

Наложение надписи

Titles cycle as follows

Original title 1 → Original title 2 → HELLO! → HAPPY BIRTHDAY → HAPPY HOLIDAYS → CONGRATULATIONS! → OUR SWEET BABY → WEDDING → VACATION → THE END
When you press TITLE with "THE END" displayed, the titles disappear. When you press TITLE once again, the titles begin from "HELLO!" or your original title.

If you have not stored any original titles

The titles begin from "HELLO!".

Notes on titles

- You cannot select a title during recording.
- You cannot record a title and the date at the same time.
- You cannot record a title and the time at the same time.
- While the menu is displayed, the titles are not recorded.

To select the title position

(1) Press MENU to display the menu on the LCD screen.
(2) Turn the control dial to select TITLE POS, then press the dial.
(3) Turn the control dial to select CENTER **[a]** or BOTTOM **[b]**, then press the dial.
(4) Press MENU to erase the menu display.

Надписи циклически изменяются следующим образом

Оригинальная надпись 1 →
Оригинальная надпись 2 → HELLO! → HAPPY BIRTHDAY → HAPPY HOLIDAYS → CONGRATULATIONS! → OUR SWEET BABY → WEDDING → VACATION → THE END
Если Вы нажмете кнопку TITLEво время отображения индикации "THE END", надписи исчезнут. Если Вы нажмете кнопку TITLE еще раз, надписи начнут отображаться опять, начиная с "HELLO!" или Вашей оригинальной надписи.

Если Вы не сохранили в памяти оригинальных надписей

Надписи начнут отображаться с"HELLO!".

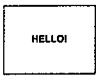
Примечания относительно надписей

- Вы можете выбрать надпись во время записи.
- Вы не можете записывать надпись и дату одновременно.
- Вы не можете записывать надпись и время одновременно.
- Во время отображения меню надписи не записываются.

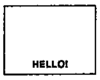
Для выбора положения надписи

(1) Нажмите кнопку MENU для отображения меню на экране ЖКД.
(2) Поверните диск управления для выбора TITLE POS, затем нажмите диск.
(3) Поверните диск управления для выбора CENTER [a] или BOTTOM [b], затем нажмите диск.
(4) Нажмите кнопку MENU для удаления индикации меню.

[a]



[b]



Making your own titles

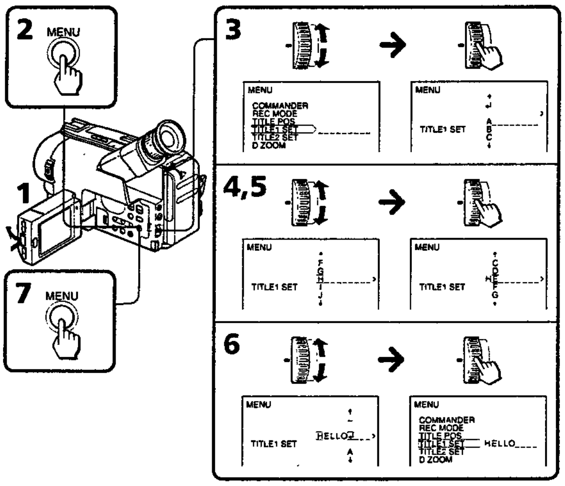
Создание Ваших собственных надписей

You can make two titles of up to 22 characters each, and store them in memory.
We recommend to eject the cassette before you begin so that the power is not turned off on the way.

(1) While pressing PUSH OPEN, open the LCD panel.
(2) While the camcorder is in Standby mode, press MENU to display the menu.
(3) Turn the control dial to select TITLE1 SET or TITLE2 SET, then press the dial.
(4) Turn the control dial to select the desired character, then press the dial.
(5) Repeat step 4 until you finish the title.
(6) Turn the dial to select ↲, then press the dial. The title is stored in memory.
(7) Press MENU to erase the menu display.

Вы можете создать две надписи в 22 знака каждая и занести их в память.
Мы рекомендуем вытолкнуть кассету перед тем, как создавать надписи, чтобы питание не выключалось в процессе работы.

(1) Нажав кнопку PUSH OPEN, откройте панель ЖКД.
(2) В то время, когда видеокамера находится в режиме готовности, нажмите кнопку MENU для отображения меню.
(3) Поверните диск управления для выбора TITLE1 SET или TITLE2 SET, затем нажмите диск.
(4) Поверните диск управления для выбора желаемого знака, затем нажмите диск.
(5) Повторяйте пункт 4 до тех пор, пока Вы не завершите надпись.
(6) Поверните диск для выбора ↲, затем нажмите диск. Надпись будет занесена в память.
(7) Нажмите кнопку MENU, чтобы удалить индикацию меню.



Making your own titles

Создание Ваших собственных надписей

To erase the title you have made

Press MENU, select the title you want to erase, and press the dial. Select ↲ at the leftmost character, then press the dial.
Do not select the blank to erase a character. Otherwise, the blank is stored as a title in memory.

To change the title you have made

In step 3, select TITLE1 SET or TITLE2 SET, depending on which title you want to change, then press the dial. Select the desired characters again.

If you enter 22 characters in step 5

The title is stored immediately (and you can skip step 6).

If it takes more than 5 minutes to make a title with a cassette inserted

If the Standby mode lasts for more than 5 minutes with a cassette inserted, the power is turned off automatically.
If the power is turned off while you are making a title, set the POWER switch to OFF once, then to CAMERA. The title you have made remains stored in memory.

Advancing the characters rapidly

Keep pressing the dial.

Making a blank

Select a blank. It is counted as a character.

Создание Ваших собственных надписей

Для удаления созданной Вами надписи
Нажмите кнопку MENU, выберите надпись, которую хотите удалить, и нажмите диск. Выберите ↲ для самого левого знака, затем нажмите диск.
Не выбирайте пустое место для удаления знака. В противном случае пустое место будет занесено в память как надпись.

Для изменения созданной Вами надписи

В пункте 3 выберите TITLE1 SET или TITLE2 SET в зависимости от того, какую надпись Вы хотите изменить, затем нажмите диск. Выберите желаемые буквы снова.

Если Вы ввели 22 знака в пункте 5

Надпись будет занесена в память тотчас же (и Вы можете пропустить пункт 6).

Если при вставленной кассете создание надписи занимает более 5 минут

Если режим готовности прподолжается более 5 минут при вставленной кассете, питание автоматически выключится.
Если питание выключится во время создания надписи, установите переключатель POWER сначала в положение OFF, затем в положение CAMERA. Созданная Вами надпись будет сохранена в памяти.

Быстрое продвижение знаков

Держите диск нажатым.

Создания пустого места

Выберите пустое место. Оно рассматривается как знак.

Watching on a TV screen

Просмотр на экране телевизора

Connect the camcorder to your VCR or TV to watch the playback picture on the TV screen. When monitoring the playback picture by connecting the camcorder to your TV, we recommend you to use mains for the power source.

While playing back on a TV screen, close the LCD panel. Otherwise, picture distortion may occur.

If your TV is already connected to a VCR

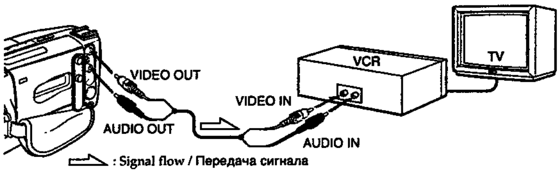
Open the jack cover and connect the camcorder to the LINE IN inputs on the VCR by using the supplied A/V connecting cable. Set the input selector on the VCR to LINE. Set the TV/VCR selector on the TV to VCR.

Подсоедините видеокамеру к Вашему КВМ или телевизору для просмотра воспроизводимого изображения на экране телевизора. При подсоединении видеокамеры к Вашему телевизору мы рекомендуем Вам использовать электрическую сеть в качестве источника питания.

При воспроизведении на экране телевизора закройте панель ЖКД. В противном случае может произойти искажение изображения.

Если Ваш телевизор уже подключен к КВМ

Откройте крышку гнезда и подсоедините видеокамеру к входам LINE IN на КВМ, используя прилагаемый соединительный кабель аудио/видео. Установите входной селектор на КВМ в положение LINE. Установите селектор TV/VCR на телевизоре в положение VCR.



⇨ : Signal flow / Передача сигнала

Watching on a TV screen

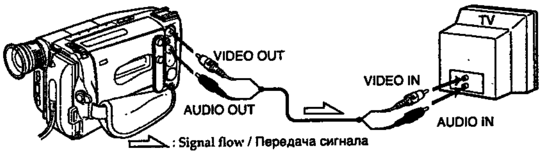
Просмотр на экране телевизора

If you connect directly to TV

Connect the camcorder to the inputs on the TV by using the supplied A/V connecting cable. Set the TV/VCR selector on the TV to VCR.

Если Вы подсоединяете прямо к телевизору

Откройте крышку гнезда и подсоедините видеокамеру к входам на телевизоре, используя прилагаемый соединительный кабель аудио/видео. Установите селектор TV/VCR на телевизоре в положение VCR.



⇨ : Signal flow / Передача сигнала

To connect to a VCR or TV without Video/Audio input jacks

Use an RFU adaptor (not supplied).

Для подсоединения к КВМ или телевизору без входных гнезд видео/аудио

Используйте адаптер RFU (не прилагается).

Editing onto another tape

Монтаж на другую ленту

You can create your own video programme by editing with any other ▣ 8 mm, Hi▣ Hi8, VHS VHS, SVHS S-VHS, VHSC VHSC, SVHSC S-VHSC, or ▣ Betamax VCR that has video/audio inputs.

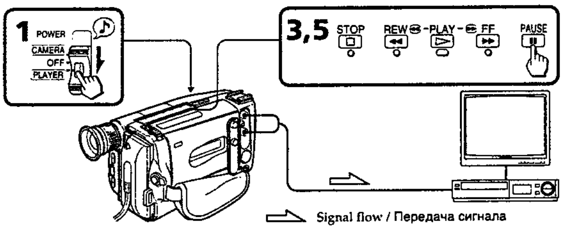
Turn down the volume of the camcorder while editing. Otherwise, picture distortion may occur.

After connecting the camcorder to the VCR,
(1) Set the POWER switch to PLAYER.
(2) Insert a blank tape (or a tape you want to record over) into the VCR and insert your recorded tape into the camcorder.
(3) Play back the recorded tape on the camcorder until you locate the point where you want to start editing, then press ❚❚ to put the camcorder in playback pause mode.
(4) On the VCR, locate the recording start point and put the VCR in recording pause mode.
(5) Press ❚❚ on the camcorder and VCR simultaneously to start editing.

Вы можете создать Вашу собственную видеопрограмму путем монтажа с помощью другого КВМ типа ▣ 8 мм, Hi▣ Hi8, VHS VHS, SVHS S-VHS, VHSC VHSC, SVHSC S-VHSC или ▣ Betamax, который имеет входы видео/аудио.

Уменьшите громкость видеокамеры во время монтажа. В противном случае могут появиться искажения.

После подсоединения видеокамеры к КВМ,
(1) Установите выключатель POWER на PLAYER.
(2) Вставьте чистую ленту (или ленту, которую Вы хотите перезаписать) в КВМ и вставьте записанную ленту в видеокамеру.
(3) Воспроизводите записанную ленту в видеокамере до тех пор, пока Вы не обнаружите точку, в которой Вы хотите начать монтаж, а затем нажмите ❚❚ для введения видеокамеры в режим паузы воспроизведения.
(4) Найдите на КВМ точку начала записи и введите КВМ в режим паузы записи.
(5) Одновременно нажмите ❚❚ на видеокамере и на КВМ для начала монтажа.



To edit more scenes
Repeat steps 3 to 5.

Для монтажа других сцен
Повторяйте пункты с 3 по 5.

To stop editing
Press ☐ on both the camcorder and VCR.

Для останова монтажа
Нажмите ☐ и на видеокамере, и на КВМ.

Changing the lithium battery in the camcorder

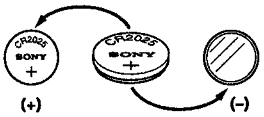
Замена литиевой батарейки в видеокамере

Your camcorder is supplied with a lithium battery installed. When the battery becomes weak or dead, the ⚡ indicator flashes in the viewfinder or on the LCD screen for about 5 seconds when you set the POWER switch to CAMERA. In this case, **replace the battery with a Sony CR2025 or Duracell DL-2025 lithium battery. Use of any other battery may present a risk of fire or explosion.** Discard used batteries according to the manufacturer's instructions.
The lithium battery for the camcorder lasts for about one year under normal operation. (The lithium battery that comes installed at the factory may not last one year.)

Ваша видеокамера снабжена установленной литиевой батарейкой. Если батарейка станет слабой или полностью разряженной, индикатор ⚡ будет мигать в видоискателе или на экране ЖКД приблизительно в течение 5 секунд, когда Вы установите выключатель POWER в положение CAMERA. В таком случае **замените батарейку на литиевую батарейку Sony CR2025 или Duracell DL-2025. Использование другой батарейки может привести к риску воспламенения или взрыва.** Ликвидируйте использованные батарейки в соответствии с инструкциями завода-изготовителя.
Литиевая батарейка для видеокамеры работает приблизительно в течение 1 года при нормальных условиях эксплуатации. (Литиевой батарейки, которая была установлена на заводе, может не хватить на 1 год.)

Notes on lithium battery
- **Keep the lithium battery out of the reach of children. Should the battery be swallowed, immediately consult a doctor.**
- Wipe the battery with a dry cloth to assure a good contact.
- Do not hold the battery with metallic tweezers, otherwise a short-circuit may occur.
- The lithium battery has positive (+) side and negative (–) side as illustrated. **Be sure to insert the lithium battery with the positive side facing out.**

Примечания относительно литиевой батарейки
- **Храните литиевую батарейку в месте, не доступном для детей.
  В случае, если кто-либо проглотил батарейку, немедленно обратитесь к врачу.**
- Для обеспечения хорошего контакта протрите батарейку сухой тканью.
- Не берите батарейку с помощью металлического пинцета, иначе может произойти короткое замыкание.
- Литиевая батарейка имеет положительный полюс (+) и отрицательный полюс (–). **Помните, что что литиевую батарейку следует располагать положительным полюсом наружу.**



WARNING
The battery may explode if mistreated. Do not recharge, disassemble, or dispose of in fire.

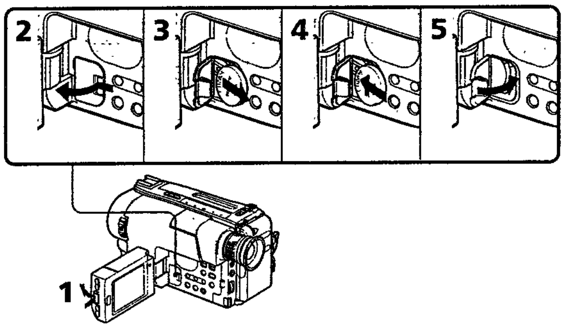
ПРЕДУПРЕЖДЕНИЕ
Если с батарейкой неправильно обращаться, она може взорваться. Не перезаряжать, не разбирать и не бросать батарейку в огонь.

Changing the lithium battery

When replacing the lithium battery, keep the battery pack or other power source attached. Otherwise, you will need to reset the date and time .
(1) While pressing PUSH OPEN, open the LCD panel.
(2) Open the lid of the lithium battery compartment.
(3) Push the battery in once and pull it out from the holder.
(4) Install the new lithium battery with the positive (+) side facing out.
(5) Close the lid.

Замена литиевой батарейки

При замене литиевой батарейки держите батарейный блок или другой источник питания присоединенным. Иначе Вам придется переустанавливать дату и время.
(1) Нажав кнопку PUSH OPEN, откройте панель ЖКД.
(2) Откройте крышку отсека литиевой батарейки.
(3) Нажмите батарейку один раз и вытащите ее из держателя.
(4) Установите новую литиевую батарейку положительной (+) стороной, обращенной наружу.
(5) Закройте крышку.

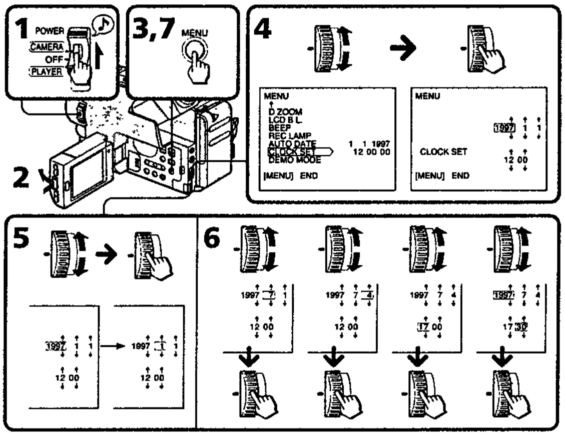


Resetting the date and time

Установка даты и времени

You can reset the date and time in the menu system.
(1) Set the POWER switch to CAMERA.
(2) While pressing PUSH OPEN, open the LCD panel.
(3) Press MENU to display the menu.
(4) Turn the control dial to select CLOCK SET, then press the dial.
(5) Turn the control dial to select the desired year, then press the dial.
(6) Set the month, day, hour, and minutes by turning the control dial and pressing the dial.
(7) Press MENU to erase the menu display.

Вы можете выполнить повторную установку даты и времени в системе меню.
(1) Установите переключатель POWER в положение CAMERA.
(2) Во время нажатия кнопки PUSH OPEN откройте панель ЖКД.
(3) Нажмите кнопку MENU для отображения меню.
(4) Поверните диск управления для выбора CLOCK SET, затем нажмите диск.
(5) Поверните диск управления для выбора желаемого года, затем нажмите диск.
(6) Установите месяц, день, часы и минуты путем поворота диска управления и нажатия диска.
(7) Нажмите кнопку MENU для удаления индикации меню.



Resetting the date and time / Установка даты и времени

To correct the date and time setting

Repeat steps 5 and 6.

To check the date and time

Press DATE to display the date indicator. Press TIME to display the time indicator. When you press the same button again, the indicator goes out.

The year indicator changes as follows:

1996 → 1997 ······→ 2025

Note on the time indicator

The internal clock of this camcorder operates on a 24-hour cycle.

Для корректировки установки даты и времени

Повторите пункты с 5 по 6.

Для проверки даты и времени

Нажмите DATE для отображения индикатора даты в видоискателе. Нажмите TIME для отображения индикатора времени. Если снова нажмете ту же кнопку, индикатор погаснет.

Индикатор года изменяется следующим образом:

1996 → 1997 ······→ 2025

Примечание относительно индикатора времени

Внутренние часы данной видеокамеры работают в 24-часовом цикле.

Playback modes / Режимы воспроизведения

The playback mode (SP/LP) is selected automatically according to the format in which the tape has been recorded. The quality of the recorded picture in LP mode, however, will not be as good as that in SP mode.

Foreign 8 mm video

You may not play back tapes recorded on a different TV colour system. Because the TV colour systems differ from country to country, you may not be able to play back foreign pre-recorded tapes. Refer to the list of "Using your camcorder abroad" to check the TV colour system of foreign countries.

Режим воспроизведения (SP/LP) выбирается автоматически согласно формату, в котором была записана лента. Однако качество изображения, записанного в режиме LP будет несколько хуже, чем в режиме SP.

Иностранные 8 мм видеоленты

Вы не можете воспроизводить ленты, записанные в другой системе цветного телевидения. Так как системы цветного телевидения отличаются в зависимости от страны. то возможно Вы не сможете восроизводить иностранные предварительно записанные ленты. Смотрите список в разделе "Использование Вашей видеокамеры за границей" для проверки системы цветного телевидения иностранных государств.

Tips for using the battery pack / Советы по использованию батарейного блока

This section shows you how you can get the most out of your battery pack.

Preparing the battery pack

Always carry additional batteries

Have sufficient battery pack power to do 2 to 3 times as much recording as you have planned.

Battery life is shorter in cold environment

Battery efficiency is decreased, and the battery will be used up more quickly, if you are recording in cold environment.

To save battery power

Turn the STANDBY switch on the camcorder down when not recording to save battery power.
A smooth transition between scenes can be made even if recording is stopped and started again. While positioning the subject, selecting an angle, or looking through the viewfinder lens or on the LCD screen, the lens moves automatically and the battery is used. The battery is also used when a cassette is inserted or removed.

В данном разделе показано, как Вы можете использовать наилучшим образом Ваш батарейный блок.

Подготовка батарейного блока

Всегда носите с собой дополнительные блоки

Имейте достаточное количество заряда в батарейных блоках, чтобы иметь возможность выполнить съемку от 2 до 3 раз.

Срок службы батарейного блока является более коротким в холодных условиях

Эффективность батарейного блока снижается и заряд будет израсходован быстрее, если Вы производите запись в холодных условиях.

Для сохранения заряда батарейного блока

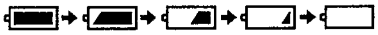
Когда запись не производится, поверните выключатель видеокамеры STANDBY вниз для сохранения заряда батарейного блока. Между сценами может быть сделан плавный переход, даже если запись остановлена и начата опять. Во время позиционирования объекта, выбора угла или просмотра через объектив видоискателя или на экране ЖКД, объектив передвигается автоматически и батарейный блок используется. Батарейный блок также используется, когда вставляется и вынимается кассета.

Tips for using the battery pack / Советы по использованию батарейного блока

When to replace the battery / Когда следует заменять батарею

While you are using your camcorder, the remaining battery indicator decreases gradually as battery power is used up.

Когда Вы используете видеокамеру, индикатор оставшегося заряда батареи постепенно уменьшается по мере израсходования заряда батареи.



When the remaining battery indicator reaches the lowest point, the ▭ indicator appears and starts flashing.
When the ▭ indicator changes from slow flashing to rapid flashing while you are recording, set the POWER switch to OFF on the camcorder and replace the battery pack Leave the tape in the camcorder to obtain smooth transition between scenes before and after the battery pack has been replaced.

Note on the remaining battery indicator

The remaining battery indicator of the camcorder may indicate a different remaining capacity from that of the battery pack with its own indicator (not supplied). The indicator on the battery pack is more accurate.

Когда индикатор оставшегося заряда батареи достигнет низшей точки, появится и начнет мигать индикатор ▭.
Если во время записи индикатор ▭ изменяет скорость мигания с медленной на быструю, установите выключатель POWER в положение OFF на видеокамере и замените батарейный блок. Оставьте ленту в видеокамере для получения плавного перехода между сценами до и после того, как был заменен батарейный блок.

Примечание относительно индикатора оставшегося заряда батареи

Индикатор оставшегося заряда батареи видеокамеры может показывать оставшуюся емкость заряда, несколько отличающуюся от той, что показывает батарейный блок со своим собственным индикатором (не прилагается). Индикатор на батарейном блоке является более точным.

Notes on the rechargeable battery pack

CAUTION

Never leave the battery pack in temperatures above 60°C (140°F), such as in a car parked in the sun or under direct sunlight.

Примечания относительно перезаряжаемого батарейного блока

ПРЕДОСТЕРЕЖЕНИЕ

Никогда не оставляйте батарейный блок при температуре выше 60°C (140°F), как например, в автомобиле, припаркованном на солнце или под прямыми солнечными лучами.

Tips for using the battery pack / Советы по использованию батарейного блока

The battery heats up

During charging or recording, the battery pack heats up. This is caused by energy that has been generated and a chemical change that has occurred inside the battery pack. This is not cause for concern and is normal.

Battery pack care

- **Remove the battery pack from the camcorder after using it,** and keep it in a cool place. When the battery pack is installed to the camcorder, a small amount of current flows to the camcorder even if the POWER switch is set to OFF. This shortens battery life.
- The battery pack is always discharging even when it is not in use after charging. Therefore, you should charge the battery right before using the camcorder.

How to use the switch on the battery pack

When the switch is supplied with the battery pack ([a] on page 60), you can use it to find whether the battery pack is charged or not. Set the switch to the "no mark" position when charging is completed. Set the switch to the "red mark" position when the battery is used up (or in whichever direction you want to remind yourself).

The life of the battery pack

If the battery indicator flashes rapidly just after turning on the camcorder with a fully charged battery pack, the battery pack should be replaced with a new fully charged one.

Charging temperature

You should charge batteries at temperatures from 10°C to 30°C (from 50°F to 86°F). Lower temperatures require a longer charging time.

Батарейный блок нагревается

Во время зарядки или записи батарейный блок нагревается. Это происходит вследствие генерируемой энергии и химических изменений, которые происходят внутри батарейного блока. Это не должно быть причиной для беспокойства и является нормальным.

Уход за батарейным блоком

- **Снимите батарейный блок с видеокамеры после пользования** и храните его в прохладном месте. Если батарейный блок установлен на видеокамере, небольшое количество электрического тока будет поступать на видеокамеру, даже, если выключатель POWER установлен в положение OFF. Это сокращает срок службы батареи.
- Батарейный блок всегда разряжается, даже если он не используется после зарядки. Поэтому Вам следует зарядить батарейный блок непосредственно перед использованием видеокамеры.

Как использовать переключатель на батарейном блоке

Если батарейный блок оснащен переключателем ([a] на стр. 60), то Вы можете использовать его для определения, заряжен ли батарейный блок или нет. Установите переключатель в позицию "без метки", если батарейный блок полностью заряжен. Установите переключатель в позицию "красной метки", если заряд батарейного блока израсходован (или же в какое-либо другое положение для напоминания).

Срок службы батарейного блока

Если индикатор заряда батареи быстро мигает сразу после включения видеокамеры с полностью заряженным батарейным блоком, то батарейный блок следует заменить на новый, полностью заряженный.

Температура зарядки

Вам следует заряжать батарейный блок при температуре от 10°C до 30°C (от 50°F до 86°F). При более низкой температуре требуется более длительное время зарядки.

Tips for using the battery pack

Notes on charging

A brand-new battery
A brand-new battery pack is not charged. Before using the battery pack, charge it completely.

After long storage
Recharge the battery pack after a long period of storage. If the battery pack is charged fully but not used for a long time (about one year), it becomes discharged. Charge it again, but in this case the battery life will be shorter than normal. After several charging and discharging cycles, the battery life will recover its original capacity.

Notes on the terminals

If the terminals (metal parts on the back) are not clean, the battery charge duration will be shortened.
When the terminals are not clean or when the battery pack has not been used for a long time, repeatedly install and remove the battery pack a few times. This improves the contact condition. Also, wipe the + and – terminals with a soft cloth or paper.

Be Sure to Observe the Following
- **To prevent an accident caused by a short circuit, do not allow metal objects such as a necklace to touch the battery terminals. When carrying the battery pack, attach to the terminal cover. [b]**
- Keep the battery pack away from fire.
- Keep the battery pack dry.
- Do not open or try to disassemble the battery pack.
- Do not expose the battery pack to any mechanical shock.

Советы по использованию батарейного блока

Примечание по зарядке

Новый батарейный блок
Новый батарейный блок не заряжен. Перед использованием батарейного блока полностью зарядите его.

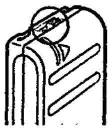
После длительного хранения
Перезарядите батарейный блок после длительного периода хранения. Если батарейный блок был полностью заряжен, но не использовался длительное время (около 1 года), он разрядится. Зарядите его снова, однако в этом случае срок службы батарейного блока будет короче, чем обычно. После нескольких циклов зарядки и разрядки срок службы батарейного блока восстановится в соответствии со своей первоначальной емкостью.

Примечания относительно контактов

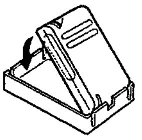
Если контакты (металлические части на задней части) загрязнены, продолжительность заряда батареи сократится. Если контакты загрязнены или если батарейный блок не использовался длительное время, повторите установку и снятие батарейного блока несколько раз. Это улучшает состояние контактов. Протрите также контакты + и – мягкой тканью или салфеткой.

Не забудьте соблюдать следующее
- **Для предотвращения несчастного случая, вызванного коротким замыканием, не допускайте, чтобы металлические объекты, такие, как ожерелье, прикасались к контактам батареи. Носите батарейный блок с крышкой для контактов. [b]**
- Храните батарейный блок вдали от огня.
- Храните батарейный блок в сухом виде.
- Не открывайте и не пытайтесь разобрать батарейный блок.
- Не подвергайте батарейный блок каким-либо механическим ударным воздействиям.

[a]



[b]



Maintenance information and precautions

Moisture condensation

If the camcorder is brought directly from a cold place to a warm place, moisture may condense inside the camcorder, on the surface of the tape, or on the lens. In this condition, the tape may stick to the head drum and be damaged or the camcorder may not operate correctly. To prevent possible damage under these circumstances, the camcorder is furnished with moisture sensors. Please take the following precautions

Inside the camcorder
When the ▣ and ⏏ indicators flash, moisture has condensed inside the camcorder. If this happens, no other functions except for tape ejection will work.
Eject the tape, turn off the camcorder and leave it with the cassette compartment open for at least one hour. The camcorder can be used again if the ▣ indicator does not appear when the power is turned on again.

On the lens
If moisture condenses on the lens, no indicator appears, but the picture becomes dim. Turn off the power and do not use the camcorder for about one hour.

How to prevent moisture condensation
When bringing the camcorder from a cold place to a warm place, put the camcorder in a plastic bag and allow it to adapt to room conditions over a period of time.
(1) Be sure to tightly seal the plastic bag containing the camcorder.
(2) Remove the bag when the air temperature inside it has reached the temperature surrounding it (after about one hour).

Информация по уходу за аппаратом и предосторожности

Конденсация влаги

Если видеокамера внесена непосредственно из холодного места в теплое, внутри видеокамеры может конденсироваться влага, а также на поверхности ленты или на объективе. При таком условии, лента может прилипнуть к барабану головки и будет повреждена или же видеокамер може работать неправильно. Для предотвращения возможного повреждения ввиду таких обстоятельств в видеокамеру встроены датчики влаги. Соблюдайте следующие предосторожности.

Внутри видеокамеры
Если мигают ▣ индикаторы и ⏏, внутри видеокамеры произошла конденсация влаги.
В случае, если это произошло, ни одна из функций, кроме выталкивания кассеты, не будет работать. Откройте отсек кассеты, выключите видеокамеру и оставьте ее примерно на один час. Видеокамера снова может быть использована, если индикатор ▣ не появится, когда питание будет включено опять.

На объективе
Если влага сконденсировалась на объективе, то никакая индикация появляться не будет, но изображение становится тусклым. Отключите питание и не используйте видеокамеру в течение 1 часа.

Как предотвратить конденсацию влаги
При внесении видеокамеры с холодного места в теплое положите видеокамеру в полиэтиленовый пакет и дайте ей возможность адаптироваться к комнатным условиям в течение определенного периода времени.
(1) Не забудьте герметично завязать полиэтиленовый пакет, содержащий видеокамеру.
(2) Снимите пакет, когда температура внутри него достигнет температуры окружающей среды (примерно спустя 1 час).

Maintenance information and precautions

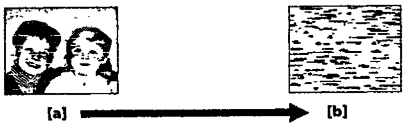
Video head cleaning

To ensure normal recording and clear pictures, clean the video heads. When ⊗ appears in CAMERA mode or playback pictures are "noisy" or hardly visible, the video heads may be dirty.

Информация по уходу за аппаратом и предосторожности

Очистка головок

Для обеспечения нормальной записи и четкого изображения видеоголовки следует очищать. Если индикатор ⊗ появляется в режиме CAMERA или воспроизводимое изображение является "зашумленным" или трудно различимым, видеоголовки могут быть загрязнены.



[a] Slightly dirty
[b] Dirty
If this happens, clean the video heads with the Sony V8-25CLH cleaning cassette (not supplied). After checking the picture, if it is still "noisy", repeat the cleaning. (Do not repeat cleaning more than 5 times in one session.)

Caution
Do not use a commercially available wet-type cleaning cassette. It may damage the video heads.

Note
If the V8-25CLH cleaning cassette is not available in your area, consult your nearest Sony dealer.

[a] Слегка загрязнены
[b] Загрязнены
Если это произошло, очистите видеоголовки с помощью очистительной кассеты V8-25CLH (не прилагается). После проверки изображения, если оно всё ещё "зашумлено", повторите очистку. (Не повторяйте очистку более 5 раз за один прием).

Предостережение
Не используйте имеющиеся в продаже очистительные кассеты влажного типа. Это может повредить видеоголовки.

Примечание
Если очистительной кассеты V8-25CLH нет в продаже в Вашей области, обратитесь в Ваше ближайшее агентство Sony.

Maintenance information and precautions

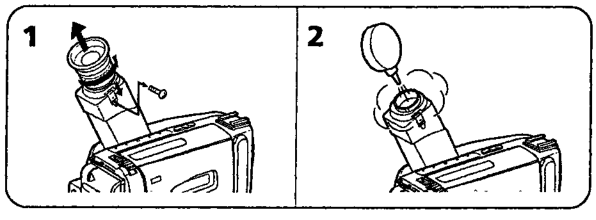
Removing dust from inside the viewfinder

(1) Remove the screw with a screwdriver (not supplied). Then, while sliding the RELEASE knob, turn the eyecup in the direction of the arrow and pull it out.
(2) Clean the surface with a commercially available blower.

Информация по уходу за аппаратом и предосторожности

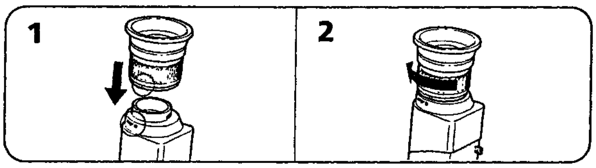
Удаление пыли изнутри видоискателя

(1) Снимите винт с помощью отвертки (не прилагается). Затем передвигая ручку RELEASE, поверните окуляр в направлении стрелки и снимите его.
(2) Очистите поверхность продувочным устройством, приобретенным коммерческим способом.



To reattach the eyecup
(1) Align the groove on the eyecup with the • mark on the barrel.
(2) Turn the eyecup in the direction of the arrow.
(3) Replace the screw.

Для прикрепления окуляра
(1) Совместите канавку на окуляре с меткой • на корпусе.
(2) Поверните окуляр в направлении стрелки.
(3) Установите винт.



Caution
Do not remove any other screws. You may remove only the screw to remove the eyecup.

Предостережение
Не снимайте какие-либо другие винты. Вы можете снимать только винт для снятия окуляра.

Precautions

Camcorder operation

- Operate the camcorder using 6.0 V (battery pack), or 7.5 V (AC power adaptor).
- For DC or AC operation, use only the recommended accessories.
- Should any solid object or liquid fall into the casing, unplug the camcorder and have it checked by your nearest Sony dealer before operating it any further.
- Avoid rough handling or mechanical shock. Be particularly careful of the lens.
- Keep the POWER switch set to OFF when not using the camcorder.
- Do not wrap up the camcorder and operate it since heat may build up internally.
- Keep the camcorder away from strong magnetic fields or mechanical vibration.
- Do not push the LCD screen.
- If the camcorder is used in a cold place, a residual image may appear on the LCD screen. This is not a malfunction.
- While using the camcorder, the back of the LCD screen may heat up. This is not a malfunction.

On handling tapes

Do not insert anything in the small holes on the rear of the cassette. These holes are used to sense the type of tape, thickness of tape, and if the recording tab is out or in.

Camcorder care

- When the camcorder is not to be used for a long time, disconnect the power source and remove the cassette. Periodically turn on the power, operate the camera and player sections and play back a tape for about 3 minutes.
- Clean the lens with a soft brush to remove dust. If there are fingerprints on the lens, remove them with a soft cloth.

Предосторожности

Работа с видеокамерой

- Эксплуатируйте видеокамеру используя 6,0 В (батарейный блок) или 7,5 В (сетевой адаптер перем. тока).
- Для работы от постоянного или переменного тока используйте только рекомендуемые принадлежности.
- В случае попадания каких-либо твердых предметов или жидкости внутрь корпуса камеры, отключить видеокамеру и проверить ее в ближайшем агентстве Sony перед дальнейшей эксплуатацией.
- Избегайте грубого обращения с видеокамерой или механического ударного воздействия. Будьте особенно осторожны с объективом.
- Держите выключатель POWER в положении OFF, если видеокамера не используется.
- Не заворачивайте видеокамеру и не работайте таким образом с ней, поскольку внутри камеры может подняться температура.
- Держите видеокамеру вдали от сильных магнитных полей или механических вибраций.
- Не нажимайте на экран ЖКД.
- Если видеокамера используется в холодном месте, то послеизображение может появиться на экране ЖКД. Это не является неисправностью.
- Во время использования видеокамеры тыльная часть экрана ЖКД может нагреваться. Это не является неисправностью.

Относительно обращения с лентами

Не вставляйте никаких предметов в маленькие отверстия на задней стороне кассеты. Эти отверстия используются для определения типа ленты, толщины ленты и наличия лепестка записи.

Уход за видеокамерой

- Если видеокамера не будет использоваться длительное время, отключите источник питания и извлеките кассету. Периодически включайте питание, производите операции с видеокамерой и секцией плейера и воспроизводите ленту порядка 3 минут.
- Очищайте объектив мягкой кисточкой для удаления пыли. Если на поверхности объектива имеются отпечатки пальцев, удалите их с помощью мягкой ткани.

- If there are fingerprints on the LCD screen, remove them using an LCD cleaning kit (not supplied).
- Clean the camcorder body with a soft dry cloth, or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent which may damage the finish.
- Do not let sand get into the camcorder When you use the camcorder on a sandy beach or in a dusty place, protect it from the sand or dust. Sand or dust may cause the unit to malfunction, and sometimes this malfunction cannot be repaired.

AC power adaptor

Charging

- Attach the battery pack firmly.
- Place the battery pack on a flat surface without vibration during charging.

Others

- Unplug the unit from the mains when not in use for a long time. To disconnect the mains lead, pull it out by the plug. Never pull the cord itself.
- Do not operate the unit with a damaged cord or if the unit has been dropped or damaged.
- Do not bend the AC power cord (mains lead) forcibly, or put a heavy object on it. This will damage the cord and may cause a fire or an electrical shock.
- Be sure that nothing metallic comes into contact with the metal parts of the connecting plate. If this happens, a short may occur and the unit may be damaged.
- Always keep the metal contacts clean.
- Do not disassemble the unit.
- Do not apply mechanical shock or drop the unit.
- While the unit is in use, particularly during charging, keep it away from AM receivers and video equipment because it will disturb AM reception and video operation.

- Если на экране ЖКД имеются отпечатки пальцев, удалите их, используя набор для чистки ЖКД (не прилагается).
- Очищайте корпус видеокамеры мягкой сухой тканью или же мягкой тканью, слегка смоченной в мягком растворе моющего средства. Не используйте никаких растворителей, поскольку это может повредить отделку.
- Не допускайте попадания песка в видеокамеру. В случае использования видеокамеры на песчаном пляже или в пыльном месте предпримите все меры, чтобы предохранить ее от песка или пыли. Песок или пыль могут привести к неисправности и иногда такая неисправность может быть неисправима.

Сетевой адаптер перем. тока

Зарядка

- Присоедините надежно батарейный блок.
- Разместите батарейный блок на плоской поверхности без вибрации во время зарядки.

Прочее

- Отсоедините аппарат от электрической сети, если он не используется в течение длительного времени. Для отсоединения сетевого провода вытащите его за разъем. Никогда не тяните за сам провод.
- Не эксплуатируйте аппарат с поврежденным шнуром или же, если аппарат был уронен или поврежден.
- Не сгибайте сетевой шнур перем. тока (сетевой провод) и не кладите тяжелые предметы на него. Это может повредить сетевой шнур и может привести к пожару или поражению электрическим током.
- Следите за тем, чтобы никакие металлические предметы не приходили в контакт с металлическими деталями соединительной пластины. Если это произойдет, то может возникнуть короткое замыкание и аппарат может быть поврежден.
- Всегда поддерживайте металлические контакты в чистоте.
- Не разбирайте аппарат.
- Не подвергайте аппарат механическим ударам и не роняйте его.
- Если аппарат находится в эксплуатации, особенно в режиме зарядки, держите его вдали от приемников AM и видеооборудования, потому что он может нарушить прием AM и работу видеоаппаратуры.

- The unit becomes warm while in use. This is normal.
- Do not place the unit in locations that are:
  - Extremely hot or cold
  - Dusty or dirty
  - Very humid
  - Vibrating

Notes on the dry batteries

To avoid possible damage from battery leakage or corrosion, observe the following.

- Be sure to insert the batteries in the correct direction.
- Dry batteries are not rechargeable.
- Do not use a combination of new and old batteries.
- Do not use different types of batteries.
- The batteries slowly discharge while not in use.
- Do not use a battery that is leaking.

If battery leakage occurred

- Wipe off the liquid in the battery compartment carefully before replacing the batteries.
- If you touch the liquid, wash it off with water.

If any difficulty should arise, unplug the unit and contact your nearest Sony dealer.

- Аппарат становится теплым во время использования. Это является нормальным.
- Не размещайте аппарат в местах, которые:
  - крайне горячие или холодные
  - пыльные или грязные
  - очень влажные
  - подвержены вибрации

Примечания относительно батареек сухого типа

Во избежание возможного повреждения вследствие утечки внутреннего вещества из батареек или коррозии соблюдайте следующие меры предосторожности.

- Соблюдайте правильную полярность при установке батареек.
- Батарейки сухого типа не подлежат перезарядке.
- Не используйте вместе новые и старые батарейки.
- Не используйте вместе батарейки разного типа.
- Батарейки постепенно медленно разряжаются, если не используются.
- Не используйте батареек, из которых имеет место утечки внутреннего вещества.

В случае утечки внутреннего вещества из батареек

- Прежде, чем установить новые батарейки, тщательно протрите отсек батареек от жидкости.
- В случае прикасания к жидкости промойте ее водой.

В случае трудностей отсоедините аппарат и обратитесь в Ваше ближайшее агентство Sony.

Using your camcorder abroad

Each country or area has its own electricity and TV colour systems. Before using your camcorder abroad, check the following points:

Power sources

You can use your camcorder in any country or area with the supplied AC power adaptor within 110 V to 240 V AC, 50/60 Hz.

Difference in colour systems

This camcorder is a PAL system-based camcorder. If you want to view the playback picture on a TV, it must be a PAL-system based TV or a SECAM system-based TV with a PAL-SECAM transcoder. Check the following list.

PAL system

Australia, Austria, Belgium, China, Denmark, Finland, Germany, Great Britain, Holland, Hong Kong, Italy, Kuwait, Malaysia, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, Thailand, etc.

PAL M system

Brazil

PAL N system

Argentina, Paraguay, Uruguay

NTSC system

Bahama Islands, Bolivia, Canada, Central America, Chile, Colombia, Ecuador, Jamaica, Japan, Korea, Mexico, Peru, Surinam, Taiwan, the Philippines, the U.S.A., Venezuela, etc.

SECAM system

Bulgaria, Czech Republic, France, Guyana, Hungary, Iran, Iraq, Monaco, Poland, Russia, Slovak Republic, Ukraine, etc.

Использование Вашей видеокамеры за рубежом

Каждая страна или область имеет свою собственную систему электрической сети и систему цветного телевидения. Перед использованием Вашей видеокамеры за рубежом проверьте следующие пункты:

Источники питания

Вы можете использовать Вашу видеокамеру в любой стране или области с прилагаемым сетевым адаптером перем. тока в пределах от 110 В до 240 В перем. тока, 50/60 Гц.

Различия в системах цветного телевидения

Данная видеокамера основана на системе PAL. Если Вы хотите просмотреть воспроизводимое изображение на телевизоре, он должен быть основан на системе PAL или же на системе SECAM с транскодером PAL-SECAM: Проверьте следующий список.

Система PAL

Австралия, Австрия, Бельгия, Великобритания, Германия, Голландия, Гонконг, Дания, Испания, Италия, Китай, Кувейт, Малайзия, Новая Зеландия, Норвегия, Португалия, Сингапур, Таиланд, Финляндия, Швеция, Швейцария, и др.

Система PAL-M

Бразилия

Система PAL-N

Аргентина, Парагвай, Уругвай

Система NTSC

Багамские острова, Боливия, Венесуэла, Канада, Колумбия, Корея, Мексика, Перу, Суринам, США, Тайвань, Филиппины, Центральная Америка, Чили, Эквадор, Ямайка, Япония и др.

Система SECAM

Болгария. Венгрия, Гайана, Ирак, Иран, Монако, Польша, Россия. Словацкая Республика, Украина, Франция, Чешская Республика и др.

English

Trouble check

If you run into any problem using the camcorder, use the following table to troubleshoot the problem. Should the difficulty persist, disconnect the power source and contact your Sony dealer or local authorized Sony service facility.

Camcorder

Power

Symptom	Cause and/or Corrective Actions
The power is not on.	• The battery pack is not installed. → Attach the battery pack firmly by pushing the lower part of the battery pack until it clicks twice. (p. 9) • The battery is dead. → Use a charged battery pack (p. 7) • The AC power adaptor is not connected to mains. → Connect the AC power adaptor to mains. (p. 27)
The power goes off.	• While being operated in CAMERA mode, the camcorder has been in the Standby mode for more than 5 minutes. → Turn STANDBY down once and turn it up again. (p. 12) • The battery is dead. → Use a charged battery pack. (p. 7)
The battery pack is quickly discharged.	• The ambient temperature is too low. (p. 57) • The battery pack has not been charged fully. → Charge the battery pack again. (p. 7) • The battery pack is completely dead, and cannot be recharged. → Use another battery pack. (p. 59)

Operation

Symptom	Cause and/or Corrective Actions
START/STOP does not operate.	• The tape is stuck to the drum. → Eject the cassette. (p. 10) • The tape has run out. → Rewind the tape or use a new one. (p. 22) • The POWER switch is set to PLAYER. → Set it to CAMERA. (p. 11) • The tab on the cassette is out (red). → Use a new cassette or slide the tab. (p 10)
The cassette cannot be removed from the holder.	• The battery is dead. → Use a charged battery pack or the AC power adaptor. (p. 7, 27)
No function except for cassette ejection works.	• Moisture condensation has occurred. → Remove the cassette and leave the camcorder for at least 1 hour. (p. 61)
The tape does not move when a tape transport button is pressed.	• The POWER switch is set to CAMERA or OFF. → Set it to PLAYER. (p. 22) • The tape has run out. → Rewind the tape or use a new one. (p. 22)
The date or time indicator is flashing.	• The lithium battery is weak or dead. → Replace the lithium battery with a new one. (p. 54) • You pressed DATE and TIME together for more than 2 seconds. The camcorder is not malfunctioning. → You may start recording Flashing will stop soon.

Symptom	Cause and/or Corrective Actions
The End Search function does not activate.	• The cassette was ejected after you recorded on it. → The End Search function will not activate until you make a new recording after reinserting the cassette.
The date or time indicator disappears.	• Reset the date and time. (p. 55)
The SteadyShot function does not activate.	• STEADY SHOT is set to OFF. → Set STEADY SHOT to ON. (p. 45) • The SteadyShot function does not work when the wide mode is set to 16:9FULL. (p. 39)
The autofocusing function does not work.	• FOCUS is set to MANUAL. → Set it to AUTO. (p. 41) • Shooting contidions are not suitable for autofocus. → Set FOCUS to MANUAL to focus manually. (p. 41)
Recording stops in a few seconds.	• START/STOP MODE switch is set to ⊥ or 5SEC. → Set it to ╨ . (p. 33)
The title display position shifts.	• There are unwanted blanks before or after the title. → Delete them then select ↵.
The fader function does not work.	• The START/STOP MODE switch is set to 5SEC or ⊥ . → Set it to ╨ . (p. 33)

Picture

Symptom	Cause and/or Corrective Actions
The image on the viewfinder screen is not clear.	• The viewfinder lens is not adjusted. → Adjust the viewfinder lens. (p. 13)
A vertical band appears when a subject such as lights or a candle flame is shot against a dark background.	• The contrast between the subject and background is too high. The camcorder is not malfunctioning. → Change locations.
The picture is "noisy".	• The video heads may be dirty. → Clean the heads using the Sony V8-25CLH cleaning cassette. (p. 62)
The picture does not appear in the viewfinder.	• The LCD panel is open. → Close the LCD panel. (p. 16)
The picture does not appear on the LCD screen.	• Incorporated fluorescent tube is worn out. → Please contact your nearest Sony dealer.
A vertical band appears when shooting a very bright subject.	• The camcorder is not malfunctioning.
An unknown picture is displayed in the viewfinder or on the LCD screen.	• If 10 minutes elapsed after you set the POWER switch to CAMERA without inserting a cassette, the camcorder automatically starts the demonstration. → Insert the cassette, and the demonstration stops. You can make the demonstration not appear in the menu system. (p. 29)

Continued to the next page

Others

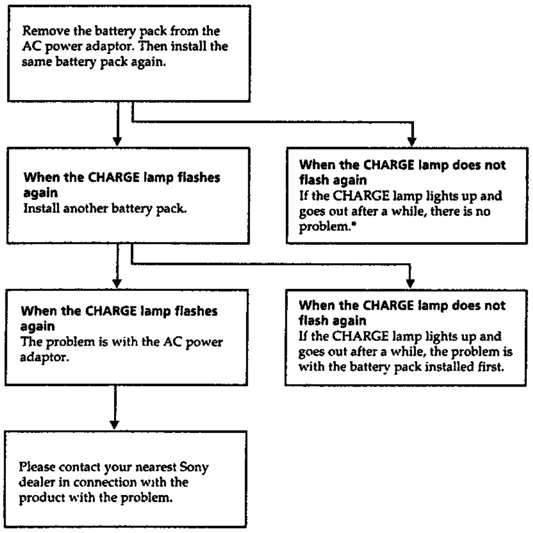
Symptom	Cause and/or Corrective Actions
The supplied Remote Commander does not work .	• COMMANDER is set to OFF. → Set it to ON in the menu system. (p. 29) • Something is blocking the infrared rays. → Remove the obstacle. • The battery is not inserted with the correct polarity. → Insert the battery with the correct polarity. (p. 83) • The batteries are dead. → Insert new ones. (p. 83)
There is dust in the viewfinder.	• Detach the eyecup and clean the viewfinder lens. (p. 63)

AC power adaptor

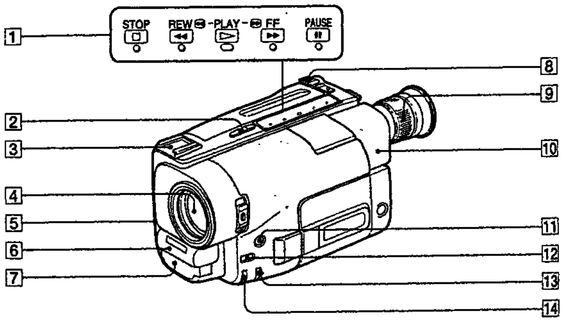
Symptom	Cause and/or Corrective Actions
The POWER lamp does not light.	• Set the selector to VTR (DC OUT) and disconnect the mains lead. After about one minute, try again. (p. 9)
The CHARGE lamp flashes.	• See the following chart.

When the CHARGE lamp flashes

Check through the following chart.


Remove the battery pack from the AC power adaptor. Then install the same battery pack again.
When the CHARGE lamp flashes again Install another battery pack.
When the CHARGE lamp does not flash again If the CHARGE lamp lights up and goes out after a while, there is no problem.*
When the CHARGE lamp flashes again The problem is with the AC power adaptor.
When the CHARGE lamp does not flash again If the CHARGE lamp lights up and goes out after a while, the problem is with the battery pack installed first.
Please contact your nearest Sony dealer in connection with the product with the problem.

* If you use a battery pack which you have just bought or which has been left unused for a long time, the CHARGE lamp may flash at the first charging. This does not indicate a problem. Repeat again to charge with the same battery pack.



1 **Tape transport buttons (p. 22, 24)**
□ STOP
◀◀ REW (rewind)
▷ PLAY (playback)
▶▶ FF (fast forward)
II PAUSE
These buttons will function in PLAYER mode.

2 **EDITSEARCH button (p. 20)**

3 **Accessory shoe**

4 **Lens cover**

5 **Recording lamp**

6 **Built-in microphone**

7 **Remote sensor (p. 83)**
Aim the Remote Commander here for remote control.

8 **Power zoom lever (p. 14)**

9 **Viewfinder adjustment ring (p. 13)**

10 **Viewfinder (p. 63, 85)**

11 **BACK LIGHT button (p. 44)**

12 **FADER button (p. 34)**

13 **FOCUS switch (p. 41)**

14 **Focus dial (p. 41)**

1 **Кнопки перемещения ленты (стр. 22, 24)**
□ STOP (останов)
◀◀ REW (ускоренная перемотка назад)
▷ PLAY (воспроизведение)
▶▶ FF (ускоренна перемотка вперед)
II PAUSE (пауза)
Эти кнопки функционируют в режиме PLAYER.

2 **Кнопка EDITSEARCH (стр. 20)**

3 **Держатель для вспомогательных принадлежностей**

4 **Крышка объектива**

5 **Лампочка записи**

6 **Встроенный микрофон**

7 **Дистанционный датчик (стр. 83)**
Нацелить пульт дистанциониого управления сюда для дистанционного контроля.

8 **Рычаг приводного трасфокатора (стр. 14)**

9 **Кольцо регулировки видоискателя (стр. 13)**

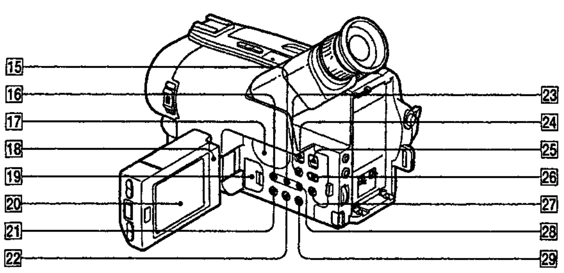
10 **Видоискатель (стр. 63, 85)**

11 **Кнопка BACK LIGHT (стр. 44)**

12 **Кнопка FADER (стр. 34)**

13 **Переключатель FOCUS (стр. 41)**

14 **Диск фокусировки (стр. 41)**



15 **TIME button (p. 32)**

16 **DATE button (p. 32)**

17 **Speaker**

18 **Recording lamp**

19 **Lithium battery compartment (p. 54)**

20 **LCD screen (p. 16, 17, 22, 85)**

21 **WIDE button (p. 39) (CCD-TRV24E only)**

22 **TITLE button (p. 46)**

23 **DISPLAY button (p. 23)**

24 **STEADY SHOT switch (p. 45) (CCD-TRV24E only)**

25 **START/STOP MODE switch (p.11, 33)**

26 **PICTURE EFFECT button (p. 37)**

27 **MENU button (p. 29)**

28 **COUNTER RESET button (p. 13)**

29 **END SEARCH button (p. 25)**

15 **Кнопка TIME (стр. 32)**

16 **Кнопка DATE (стр. 32)**

17 **Громкоговоритель**

18 **Лампочка записи**

19 **Отсек литиевой батарейки (стр. 54)**

20 **Экран ЖКД (стр. 16, 17, 22, 85)**

21 **Кнопка WIDE (стр. 39) (только CCD-TRV24E)**

22 **Кнопка TITLE (стр. 46)**

23 **Кнопка DISPLAY (стр. 23)**

24 **Переключатель STEADY SHOT (стр. 45) (только модель CCD-TRV24E)**

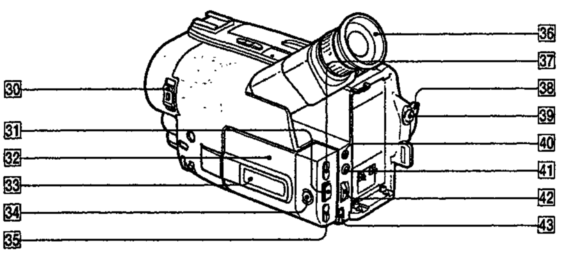
25 **Переключатель START/STOP MODE (стр. 11, 33)**

26 **Кнопка PICTURE EFFECT (стр. 37)**

27 **Кнопка MENU (стр. 29)**

28 **Кнопка COUNTER RESET (стр. 13)**

29 **Кнопка END SEARCH (стр. 25)**



30 **POWER switch (p. 11, 22)**

31 **PUSH OPEN button (p. 16, 17, 22)**

32 **LCD panel (p. 16, 17, 22)**

33 **Display window (p. 86)**

34 **PROGRAM AE button (p. 43)**

35 **VOLUME button (p. 22)**

36 **Eyecup (p. 63)**

37 **BRIGHT button (p. 16)**

38 **STANDBY switch (p. 11)**

39 **START/STOP button (p. 11)**

40 **LANC ⅃ control jack**
⅃ stands for Local Application Control Bus system. The ⅃ control jack is used for controlling the tape transport of video equipment and peripherals connected to it. This jack has the same function as the connectors indicated as CONTROL L or REMOTE.

41 **🎧 (earphone) jack (p. 23)**

42 **Menu control dial (p. 29)**

43 **BATT (battery release) knob (p. 9)**

30 **Выключатель POWER (стр. 11, 22)**

31 **Кнопка PUSH OPEN (стр. 16, 17, 22)**

32 **Панель ЖКД (стр. 16, 17, 22)**

33 **Окошко дисплея (стр. 86)**

34 **Диск PROGRAM AE (стр. 43)**

35 **Кнопка VOLUME (стр. 22)**

36 **Окуляр (стр. 63)**

37 **Кнопка BRIGHT (стр.16)**

38 **Переключатель STANDBY (стр. 11)**

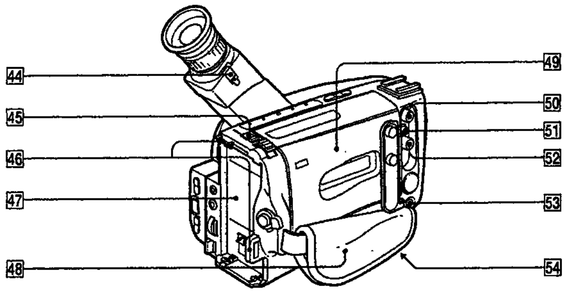
39 **Кнопка START/STOP (стр. 11)**

40 **Гнездо управления LANC ⅃**
⅃ означает систему канала местного управления. Гнездо управления ⅃ используется для контроля за перемещением ленты видеооборудования и перефирийных устройств, подключенных нему. Данное гнездо имеет ткую же функцию, как и разъемы, обозначенные как CONTROL L или REMOTE.

41 **Гнездо 🎧 (наушников) (стр. 23)**

42 **Диск управления меню (стр. 29)**

43 **Ручка BATT (освобождения батарейного блока) (стр. 9)**



44 **Eyecup release knob (p. 63)**

45 **EJECT knob (p. 10)**

46 **Hooks for shoulder strap**

47 **Battery mounting surface (p. 9)**

48 **Grip strap (p. 18)**

49 **Cassette compartment (p. 10)**

50 **VIDEO OUT jack (p. 50)**

51 **RFU DC OUT (RFU adaptor DC out) jack**

52 **AUDIO OUT jack (p. 50)**

53 **MIC (microphone) jack**
Connect an external microphone (not supplied). This jack also accepts a "plug-in-power" microphone.

54 **Tripod receptacle (p. 19)**

Attaching the shoulder strap

Attach the supplied shoulder strap to the hooks for the shoulder strap 46.

44 **Ручка освобождения окуляра (стр. 63)**

45 **Ручка EJECT (стр. 10)**

46 **Крючки для плечевого ремня**

47 **Поверхность установки батарейного блока (стр. 9)**

48 **Ременной захват (стр. 18)**

49 **Отсек кассеты (стр. 10)**

50 **Гнездо VIDEO OUT (стр. 50)**

51 **Гнездо RFU DC OUT (выход адаптера пост. тока RFU)**

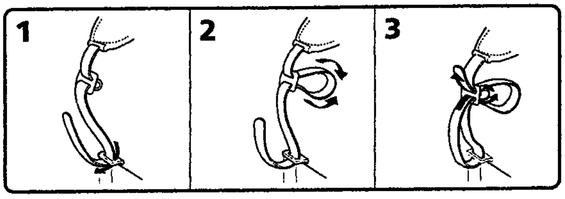
52 **Гнездо AUDIO OUT (стр. 50)**

53 **Гнездо MIC (микрофона)**
Подсоедините внешний микрофон (не прилагается).
К этому гнезду также можно подсоединять микрофон с "выключателем питания".

54 **Дежатель треноги (стр. 19)**

Прикрепление плечевого ремня

Прикрепите прилагаемый плечевой ремень к крючкам для плечевого ремня 46.



Remote Commander

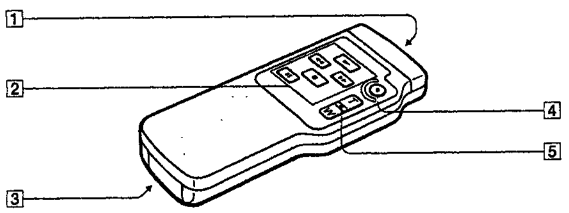
Using the Remote Commander
Make sure that COMMANDER is set to ON in the menu system.

The buttons that have the same name on the Remote Commander as on the camcorder function identically.

Пульт дистанционного управления

Использование пульта дистанционного управления
Убедитесь, что COMMANDER установлен в положение ON в системе меню.

Кнопки с одинаковыми названиями на пульте дистанционного управления и на видеокамере функционируют идентично.

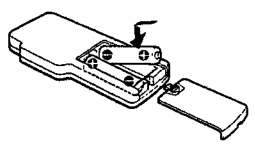


1. **Transmitter**
   Point toward the remote sensor to control the camcorder after turning on the camcorder.
2. **Tape transport buttons (p. 22, 24)**
3. **R6 (size AA) battery compartment (p. 83)**
4. **START/STOP button (p. 11)**
5. **Power zoom button (p. 14)**
   The zooming speed is unchangeable on the Remote Commander.

1. **Передатчик**
   Направьте его на дистанционный датчик для управления видеокамерой после включения питания видеокамеры.
2. **Кнопки перемещения ленты (стр. 22, 24)**
3. **Отсек батареек R6 (размер AA) (стр. 83)**
4. **Кнопка START/STOP (стр. 11)**
5. **Кнопка приводного трансфокатора (стр. 14)**
   Скорость трансфокации является неизменной при управлении с помощью пульта дистанционного управления.

To prepare the Remote Commander
Insert two R6 (size AA) batteries by matching the + and – on the batteries to the diagram inside the battery compartment.

Для подготовки пульта дистанционного управления
Вставьте две батарейки R6 (размера AA) в соответствии полярности + и – на батарейках схеме внутри батарейного отсека.



Note on battery life
The batteries for the Remote Commander last about 6 months under normal operation. When the batteries become weak or dead, the Remote Commander does not work.

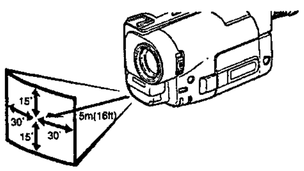
To avoid damage from possible battery leakage
Remove the batteries when you will not use the Remote Commander for a long time.

Remote control direction
Aim the Remote Commander to the remote sensor within the range as shown below.

Примечание относительно срока службы батареек
Батареек для пульта дистанционного управления хватает примерно на 6 месяцев при нормальной эксплуатации. Если заряд батареек станет слабым или израсходуется совсем, пульт дистанционного управления перестанет функционировать.

Во избежание повреждения вследствие возможной утечки содержимого батареек
Удалите батарейки, если Вы не будете использовать пульт дистанционного управления длительное время.

Направление пульта дистанционного управления
Направьте пульт дистанционного управления на дистанционный датчик в пределах диапазона, показанного ниже.



Notes on the Remote Commander
- Keep the remote sensor away from strong light sources such as direct sunlight or illumination. Otherwise, the remote control may not be effective.
- Be sure that there is no obstacle between the remote sensor on the camcorder and the Remote Commander.
- This camcorder works at commander mode VTR 2. The commander modes (1, 2, and 3) are used to distinguish this camcorder from other Sony VCRs to avoid remote control misoperation. If you use another Sony VCR at commander mode VTR 2, we recommend you change the commander mode or cover the remote sensor of the VCR with black paper.

To watch the demonstration
You can start the demonstration by setting in the menu system.
You can also start the demonstration by the following operation.

To enter demo mode
(1) Eject the cassette and set the POWER switch to PLAYER.
(2) Turn STANDBY up.
(3) While holding down ⊳ set the POWER switch to CAMERA.

To exit demo mode
(1) Set the POWER switch to PLAYER.
(2) Turn STANDBY up.
(3) While holding down □ set the POWER switch to CAMERA.

Примечания относительно пульта дистанционного управления
- Располагайте дистанционный датчик вдали от сильных источников света, таких, как прямой солнечный свет или иллюминация. В противном случае дистанционное управление может не срабатывать.
- Убедитесь, что между дистанционным датчиком на видеокамере и пультом дистанционного управления нет препятствия.
- Данная видеокамера работает в режиме пульта управления VTR 2 (КВМ 2). Режимы пульта управления (1, 2 и 3) используются для отличия данной видеокамеры от других КВМ фирмы Sony, чтобы избежать неправильного срабатывания при дистанционном управлении. Если Вы используете другие КВМ фирмы Sony в режиме пульта управления VTR 2 (КВМ 2), рекомендуется изменить режим на пульте управления или закрыть дистанционный датчик КВМ черной бумагой.

Для просмотра демонстрации
Вы можете начать демонстрацию путем установки в системе меню.
Вы можете также начать демонстрацию путем следующей операции.

Для входа в демонстрационный режим
(1) Вытолкните кассету и установите выключатель POWER в положение PLAYER.
(2) Поверните STANDBY вверх.
(3) Нажимая ⊳, установите выключатель POWER в положение CAMERA.

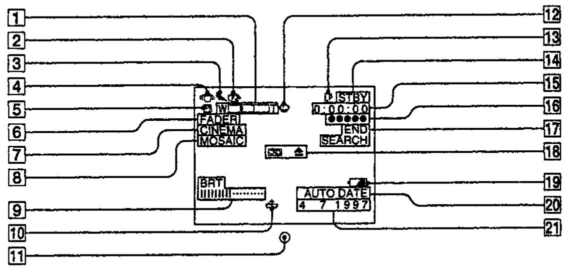
Для выхода из демонстрационного режима
(1) Установите выключатель POWER в положение PLAYER.
(2) Поверните STANDBY вверх.
(3) Нажимая □, установите выключатель POWER в положение CAMERA.

Operation indicators

In the viewfinder and on the LCD screen

Индикаторы работы

В видоискателе и на экране ЖКД



1. Power zoom indicator (p. 15)
2. Manual focus indicaror (p. 41)
3. PROGRAM AE indicator (p. 42)
4. SteadyShot indicator (p. 45) (CCD-TRV24E only)
5. Back light indicator (p. 44)
6. FADER indicator (p. 34)
7. Wide mode indicator (p. 38) (CCD-TRV24E only)
8. Picture Effect indicator (p. 36)
9. BRT (brightness) indicator (p. 16)
   VOL (volume) indicator (p. 22)
10. Lithium battery indicator (p. 53)
11. Recording lamp/battery lamp (p. 11) (in the viewfinder)
12. Mirror mode indicator (p. 17)
13. SP/LP recording mode indicator (p. 11)
14. Tape transport mode indicator (p. 11)
15. Tape counter (p. 13)

Continued to the next page

1. Индикатор приводного трансфокатора (стр. 15)
2. Индикатор ручной фокусировки (стр. 41)
3. Индикатор PROGRAM AE (стр. 42)
4. Индикатор стабилизации съемки SteadyShot (стр. 45) (только CCD-TRV24E)
5. Индикатор задней подсветки (стр. 44)
6. Индикатор FADER (стр. 34)
7. Индикатор широкоэкранного режима (стр. 38) (только CCD-TRV24E)
8. Индикатор эффекта изображения (стр. 36)
9. Индикатор BRT (яркости) (стр. 16)
   Индикатор VOL (громкости) (стр. 22)
10. Индикатор литиевой батарейки (стр. 53)
11. Лампочка записи/лампочка батарейного блока (стр. 11) (в видоискателе)
12. Индикатор зеркального режима (стр. 17)
13. Индикатор режима записи SP/LP (стр. 11)
14. Индикатор режима перемещения ленты (стр. 11)
15. Счетчик ленты (стр. 13)

Продолжение следует

Identifying the parts

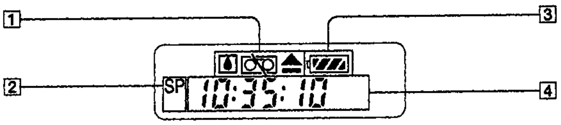
Опознавание деталей

16 5SEC recording indicator (p. 33)
17 END SEARCH indicator (p. 25)
18 Warning indicators (p. 87)
19 Remaining battery indicator (p. 58)
■ → ◩ → ◪ → ◿ → □
20 AUTO DATE indicator (p. 11)
21 Date or Time (p. 32)

16 Индикатор пятисекундной записи 5SEC (стр. 33)
17 Индикатор END SEARCH (стр. 25)
18 Предупреждающие индикаторы (стр. 87)
19 Индикатор оставшегося заряда батарейного блока (стр. 58)
■ → ◩ → ◪ → ◿ → □
20 Индикатор AUTO DATE (стр. 11)
21 Дата или время (стр. 32)

In the display window

В окошке дисплея



1 Warning indicators (p. 87)
2 Recording mode indicator (SP/LP) (p. 11)
3 Remaining battery indicator (p. 58)
■ → ◩ → ◪ → ◿ → □
4 Date or time (p. 32)
Tape counter (p. 13)

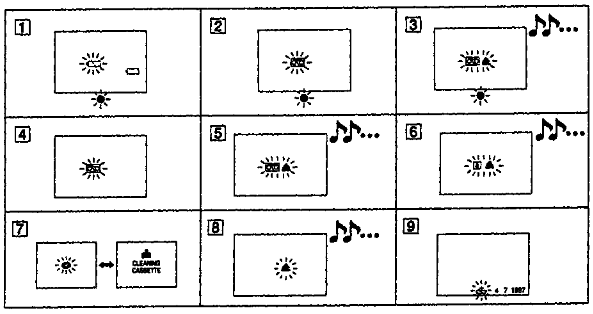
1 Предупреждающие индикаторы (стр. 87)
2 Индикатор режима записи (SP/LP) (стр. 11)
3 Индикатор оставшегося заряда батарейного блока (стр. 58)
■ → ◩ → ◪ → ◿ → □
4 Дата или время (стр. 32)
Счетчик ленты (стр. 13)

Warning indicators

Предупреждающие индикаторы

The warning indicators and the recording lamp flash to inform you of the following situations. The illustrations below are the warning indicators of the viewfinder and the LCD screen. The same indicators flash also in the display window.
♪: You can hear the beep sound when BEEP is set to ON in the menu system.

Предупреждающие индикаторы и лампочка записи мигают, чтобы информировать Вас о следующих возможных ситуациях. Приведенные ниже рисунки показывают предупреждающие индикаторы видоискателя и экрана ЖКД. Такие же индикаторы мигают также в окошке дисплея.
♪: Вы можете слышать зуммерный звуковой сигнал при установке BEEP в положение ON в системе меню.



1 **The battery is weak or dead.**
Slow flashing: The battery is weak.
Fast flashing: The battery is dead.

2 **The tape is near the end.**

3 **The tape has run out.**

4 **No tape has been inserted.**

5 **The tab on the tape is out (red). (p.10)**

6 **Moisture condensation has occurred. (p. 61)**
⏏ indicator appears only when the cassette is inserted.

7 **The video heads may be contaminated. (p. 62)**

8 **Some other trouble has occurred.**
Disconnect the power source and contact your Sony dealer or local authorized facility.

9 **The lithium battery is weak or is not installed. (p. 53)**
This indicator flashes just only after powering on.

1 **Заряд батареи слабый или израсходован.**
Медленное мигание: заряд батареи слабый.
Быстрое мигание: заряд батареи израсходован.

2 **Лента приближается к концу.**

3 **Лента закончилась.**

4 **Не вставлена кассета.**

5 **На кассете отсутствует лепесток (красный). (стр. 10)**

6 **Произошла конденсация влаги. (стр. 61)**
Индикатор ⏏ появляется только при вставленной кассете.

7 **Возможно загрязнены видеоголовки. (стр. 62)**

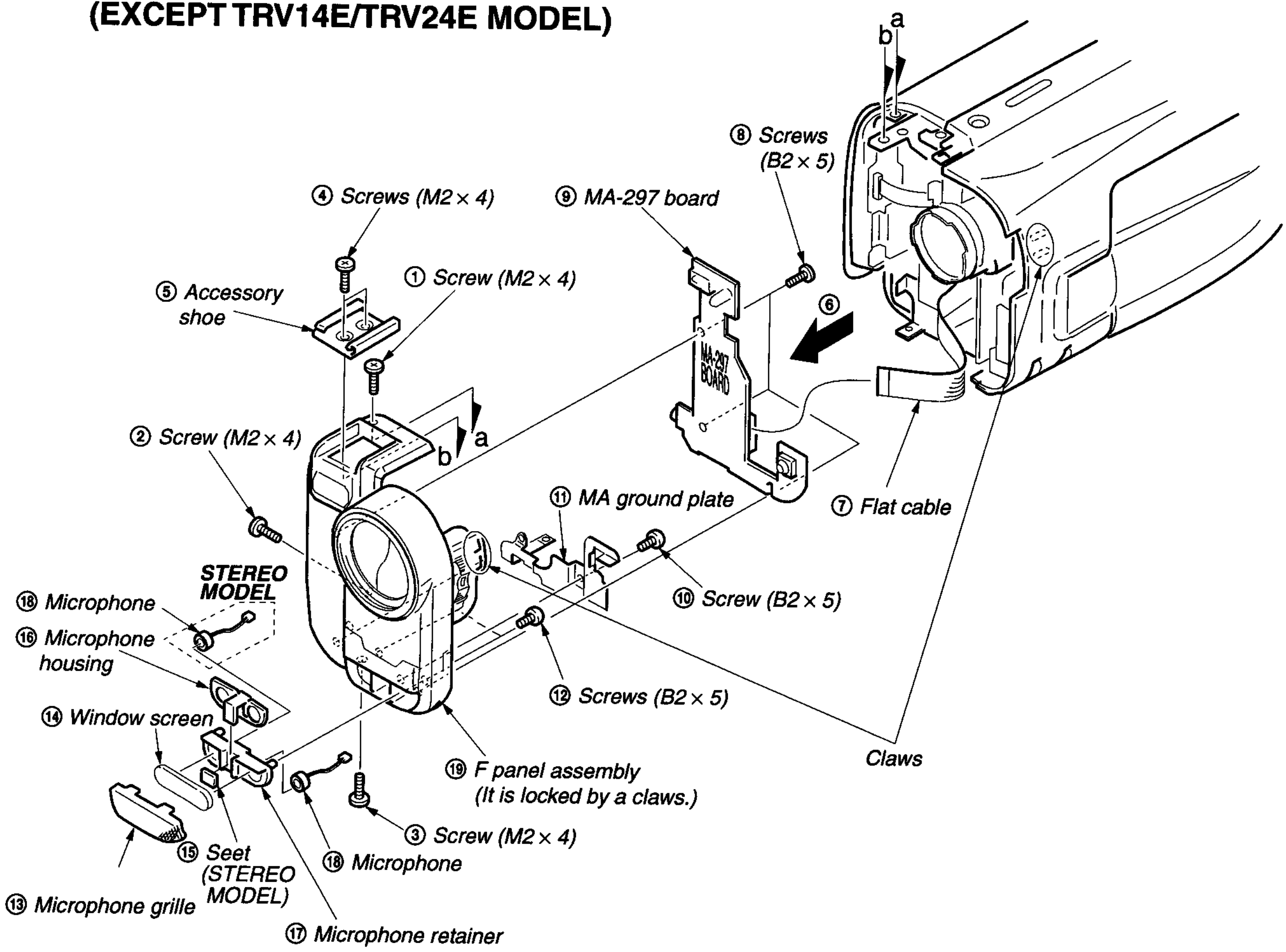
8 **Имеют место другие неисправности.**
Отсоедините источник питания и обратитесь в Ваше агентство фирмы Sony или местное уполномоченное ремонтное предприятие.

9 **Заряд литиевой батарейки является слабым или же литиевая батарейка не установлена. (стр. 53)**
Этот индикатор мигает только после включения питания.

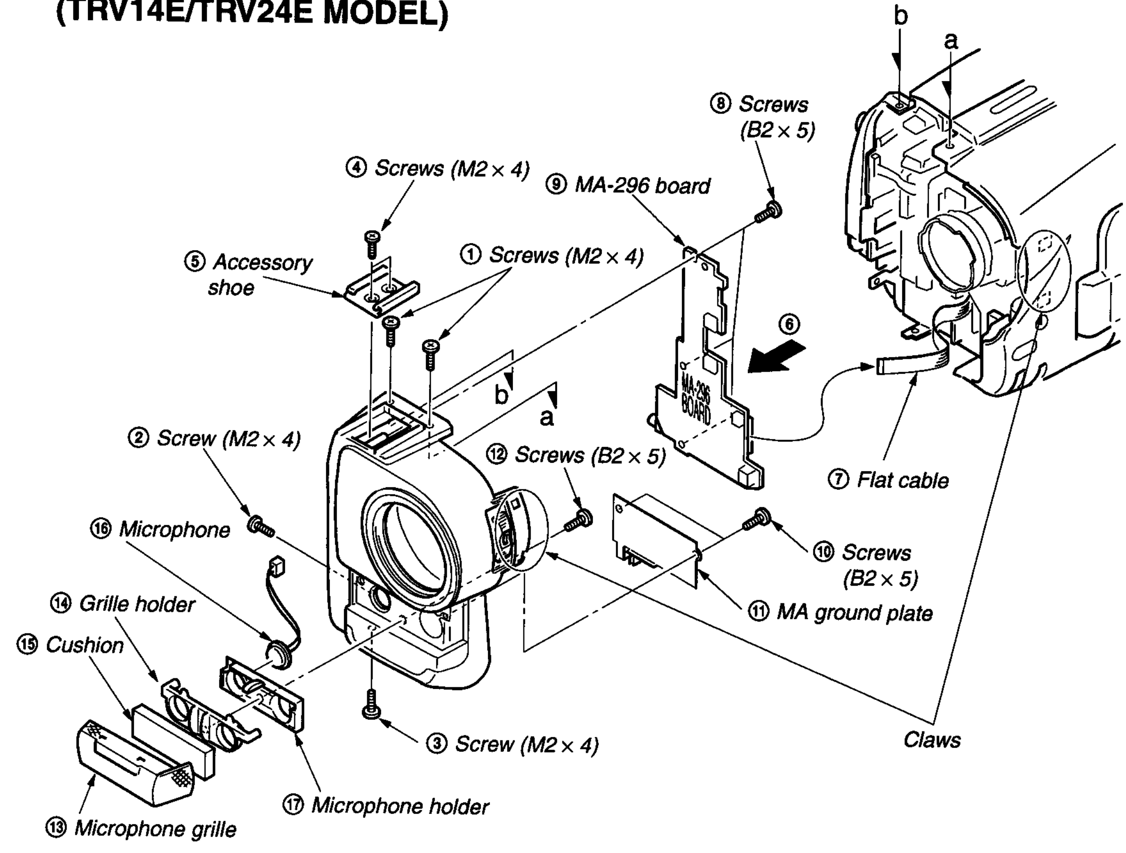
SECTION 2
DISASSEMBLY

NOTE : Follow the disassembly procedure in the numerical order given.

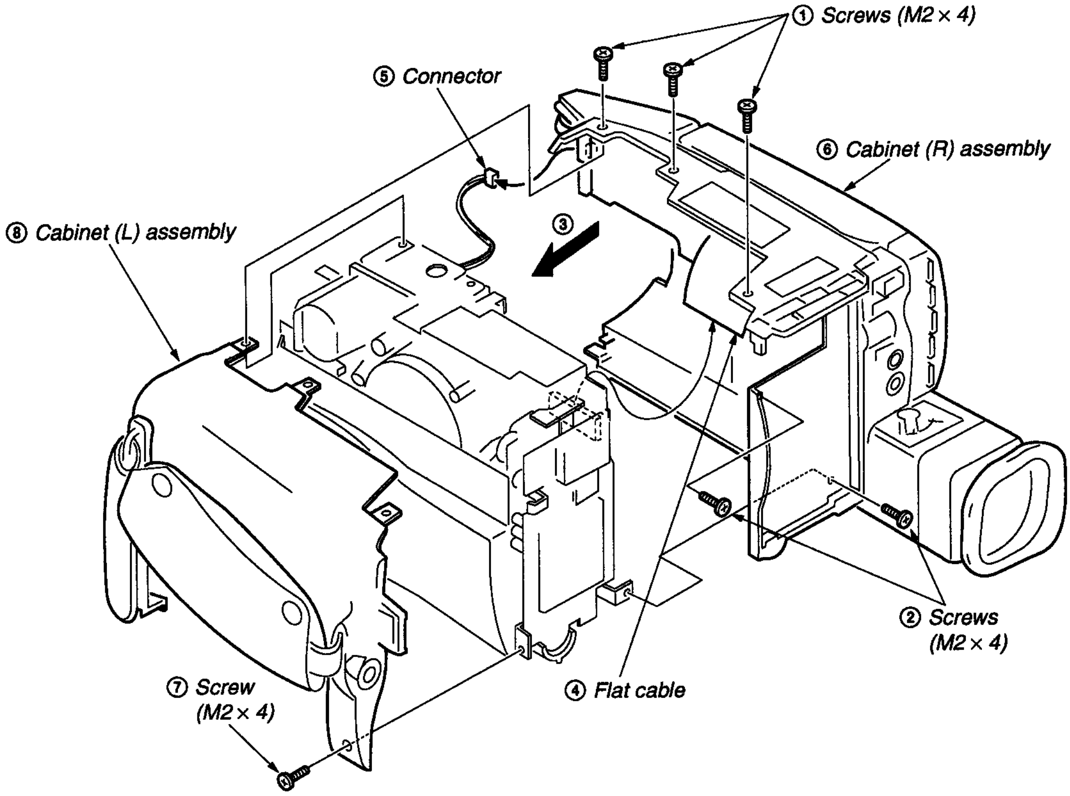
2-1(1). REMOVAL OF MA-297 BOARD, F PANEL ASSEMBLY AND MICROPHONE (EXCEPT TRV14E/TRV24E MODEL)


a
b
⑧ Screws (B2 × 5)
④ Screws (M2 × 4)
⑨ MA-297 board
⑤ Accessory shoe
① Screw (M2 × 4)
⑥
MA-297 BOARD
② Screw (M2 × 4)
b
a
⑪ MA ground plate
⑦ Flat cable
STEREO MODEL
⑱ Microphone
⑩ Screw (B2 × 5)
⑯ Microphone housing
⑫ Screws (B2 × 5)
⑭ Window screen
Claws
⑲ F panel assembly (It is locked by a claws.)
③ Screw (M2 × 4)
⑮ Seet (STEREO MODEL)
⑱ Microphone
⑬ Microphone grille
⑰ Microphone retainer

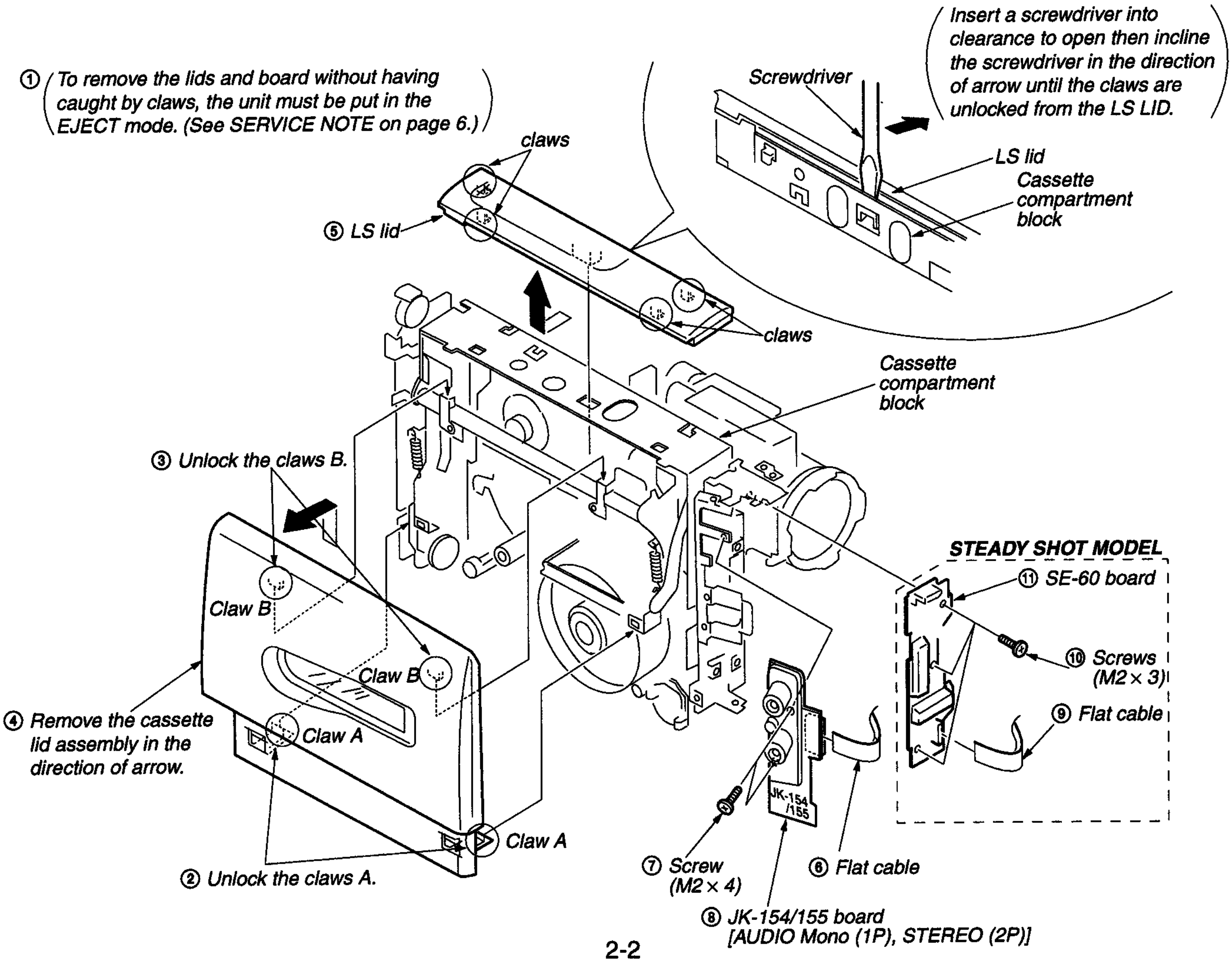
2-1(2). REMOVAL OF MA-296 BOARD, F PANEL ASSEMBLY AND MICROPHONE (TRV14E/TRV24E MODEL)


b
a
⑧ Screws (B2 × 5)
④ Screws (M2 × 4)
⑨ MA-296 board
⑤ Accessory shoe
① Screws (M2 × 4)
⑥
MA-296 BOARD
b
a
② Screw (M2 × 4)
⑫ Screws (B2 × 5)
⑦ Flat cable
⑯ Microphone
⑩ Screws (B2 × 5)
⑭ Grille holder
⑪ MA ground plate
⑮ Cushion
③ Screw (M2 × 4)
Claws
⑰ Microphone holder
⑬ Microphone grille

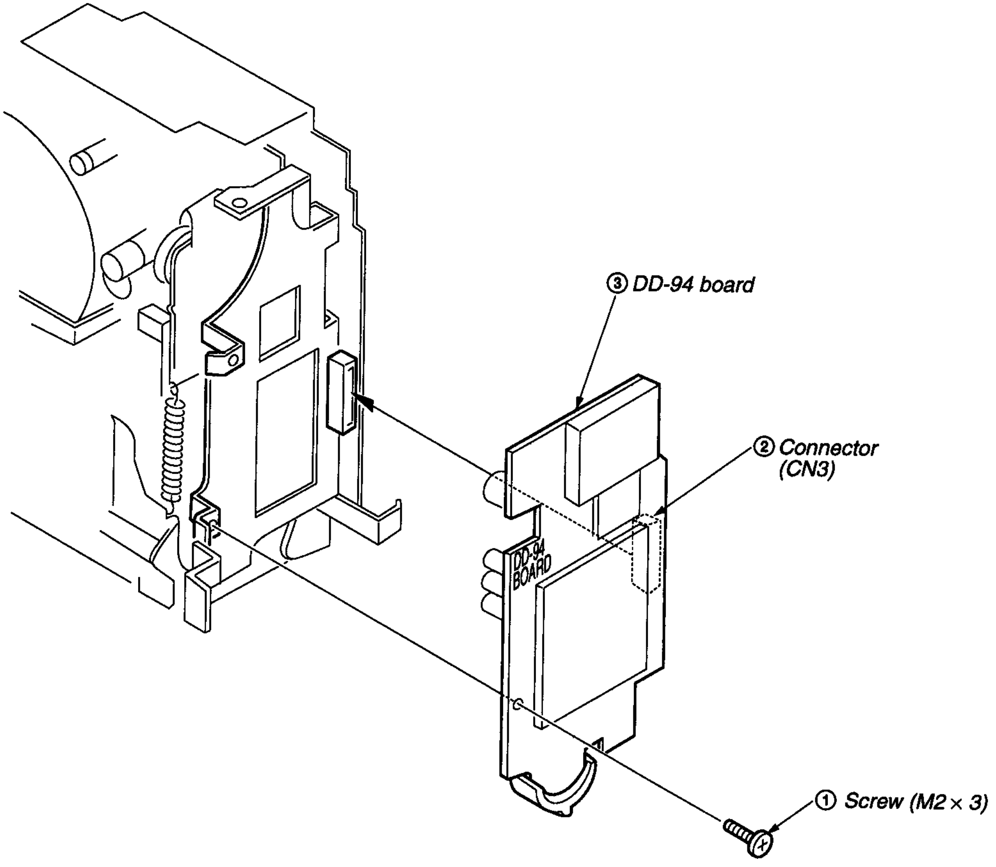
2-2. REMOVAL OF CABINET ASSEMBLY


① Screws (M2 × 4)
⑤ Connector
⑥ Cabinet (R) assembly
③
⑧ Cabinet (L) assembly
② Screws (M2 × 4)
⑦ Screw (M2 × 4)
④ Flat cable

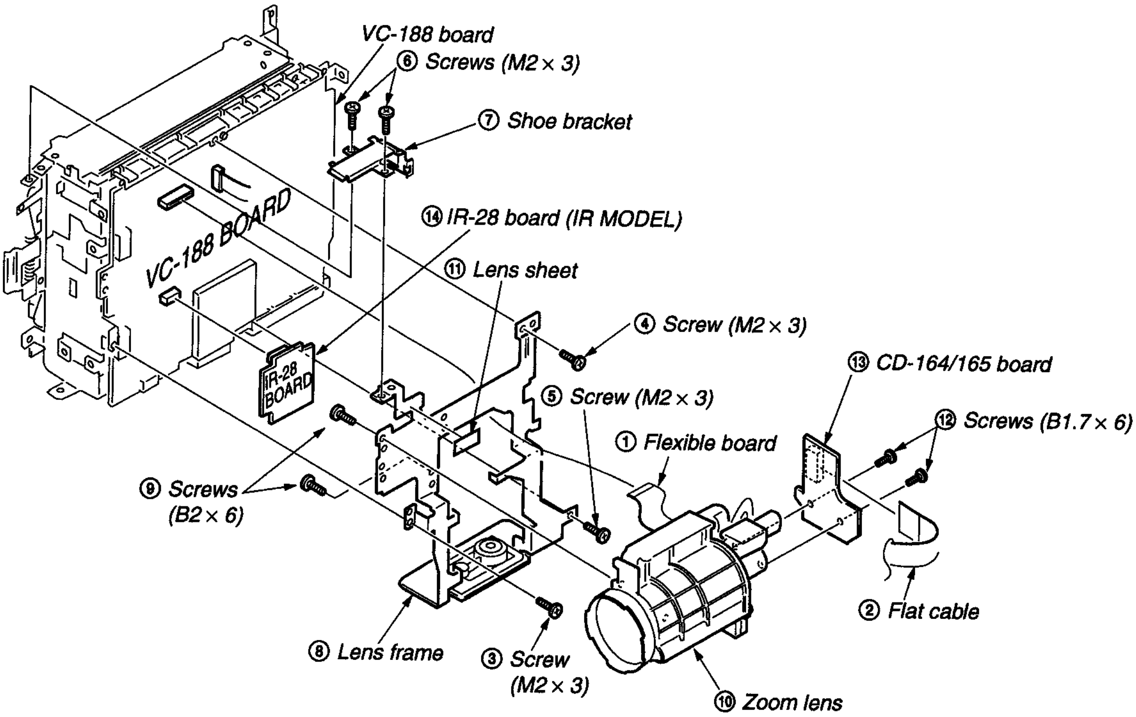
2-3. REMOVAL OF CASSETTE LID ASSEMBLY, LS LID, JK-154/155 and SE-60 BOARD


① (To remove the lids and board without having caught by claws, the unit must be put in the EJECT mode. (See SERVICE NOTE on page 6.))
Screwdriver
(Insert a screwdriver into clearance to open then incline the screwdriver in the direction of arrow until the claws are unlocked from the LS LID.)
LS lid
Cassette compartment block
claws
⑤ LS lid
claws
Cassette compartment block
③ Unlock the claws B.
Claw B
Claw B
Claw A
Claw A
④ Remove the cassette lid assembly in the direction of arrow.
② Unlock the claws A.
STEADY SHOT MODEL
⑪ SE-60 board
⑩ Screws (M2 × 3)
⑨ Flat cable
JK-154 /155
⑦ Screw (M2 × 4)
⑥ Flat cable
⑧ JK-154/155 board [AUDIO Mono (1P), STEREO (2P)]

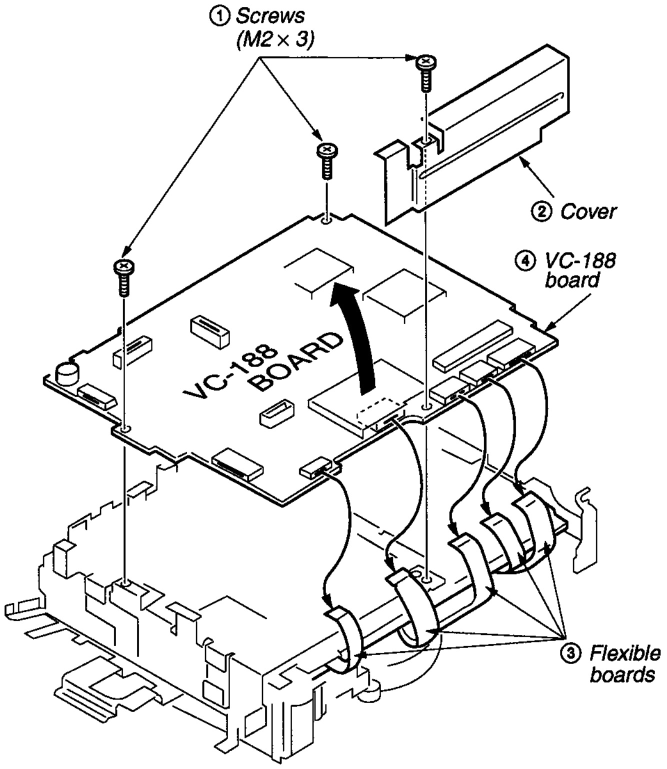
2-4. REMOVAL OF DD-94 BOARD


③ DD-94 board
② Connector (CN3)
DD-94 BOARD
① Screw (M2 × 3)

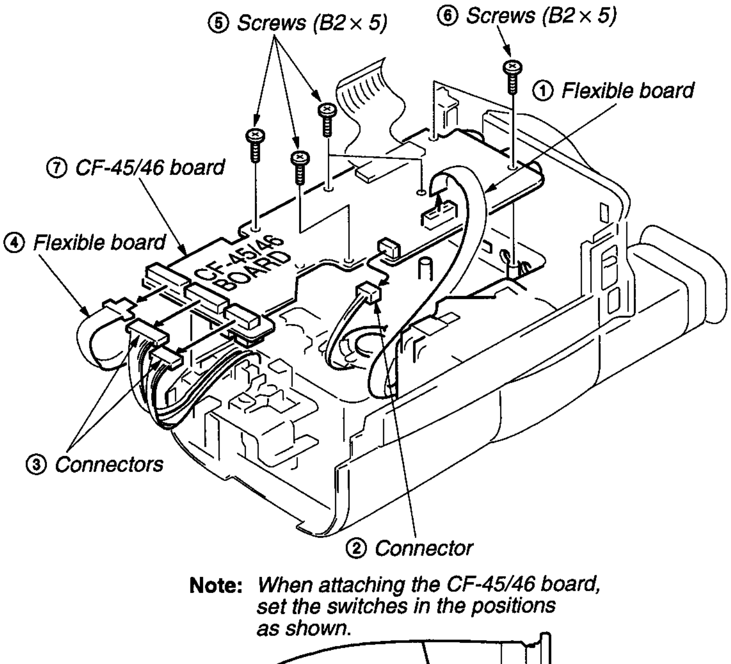
2-5. REMOVAL OF ZOOM LENS, CD-164/165 and IR-28 BOARD


VC-188 board
⑥ Screws (M2 × 3)
⑦ Shoe bracket
VC-188 BOARD
⑭ IR-28 board (IR MODEL)
⑪ Lens sheet
④ Screw (M2 × 3)
⑬ CD-164/165 board
IR-28 BOARD
⑤ Screw (M2 × 3)
⑫ Screws (B1.7 × 6)
① Flexible board
⑨ Screws (B2 × 6)
② Flat cable
⑧ Lens frame
③ Screw (M2 × 3)
⑩ Zoom lens

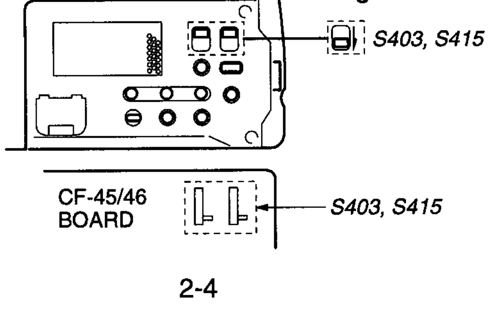
2-6. REMOVAL OF VC-188 BOARD


① Screws (M2 × 3)
② Cover
④ VC-188 board
VC-188 BOARD
③ Flexible boards

2-7. REMOVAL OF CF-45/46 BOARD


⑤ Screws (B2 × 5)
⑥ Screws (B2 × 5)
① Flexible board
⑦ CF-45/46 board
④ Flexible board
CF-45/46 BOARD
③ Connectors
② Connector

Note: *When attaching the CF-45/46 board, set the switches in the positions as shown.*


S403, S415
CF-45/46 BOARD
S403, S415